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### CONTENTS AND SUBJECT INDEX

Cholecystography. E. L. Jenkinson, M.D., Chicago.....755

Causes of Blindness in Pennsylvania from Medical and Social Aspects. Alfred Cowan, M.D., and S. M. Sinclair, B.A., Philadelphia....757
Discussed by Drs. Brown, Crisp, Berens and Cowan.

Cinchophen—Is There a Safe Method of Administration? Walter L. Palmer, M.D., and Paul S. Woodall, M.D., Chicago.....760
Discussed by Drs. Comfort, Climenko, Snyder, Leake and Palmer.

Voluntary Food Habits of Normal Children. Clifford Sweet, M.D., Oakland, Calif.....765
Discussed by Drs. Cole, Boyd and Sweet.

Postprandial Insulin: Individualizing Time of Administration. Milton Plotz, M.D., Brooklyn.....768
Discussed by Drs. Major and Wilder.

Alcohol Injection in Treatment of Major Trigeminal Neuralgia. F. C. Grant, M.D., Philadelphia.....771
Discussed by Drs. Dandy, Love, Bassoe, Sachs, Jaeger, Skoog and Grant.

Ocular Hypertension in Glaucoma. Webb W. Weeks, M.D., New York .....774
Discussed by Drs. Gradle, Spratt, O'Connor and Weeks.

CLINICAL NOTES, SUGGESTIONS AND NEW INSTRUMENTS

Black Sputum. Harold C. Lueth, M.D., Evanston, Ill.; V. A. Gant, M.S., and Don C. Sutton, M.D., Chicago .....778

A Simple, Inexpensive Heat Lamp. Frank H. Krusen, M.D., Rochester, Minn. .....780

SPECIAL ARTICLES

The Pharmacopeia and the Physician: An Introduction to a Series of Articles on the Use in Therapy of Pharmacopeial Substances. Walter A. Bastedo, M.D., New York .....780

The Administration of the Syphilis Control Program. R. A. Vonderlehr, M.D., Washington, D. C...782

Practical Epidemiology of Syphilis. Dudley C. Smith, M.D., Charlottesville, Va.....784

Development of Adequate Treatment Facilities for Control of Syphilis. J. E. Moore, M.D., Baltimore..787

COUNCIL ON PHYSICAL THERAPY 790

COUNCIL ON PHARMACY AND CHEMISTRY 791

EDITORIALS

Bringing Syphilis into the Light.792

Milk Not Potent for Cevitamic Acid .....792

Bejel—Nonvenereal Syphilis.....793

CURRENT COMMENT

The Pharmacopeia and the Physician .....794

Osteopathy in England.....794

MEDICAL ECONOMICS 795

BUREAU OF LEGAL MEDICINE AND LEGISLATION 818

(Subject Index on next page)

A.M.A. SESSION • ATLANTIC CITY, N. J. • JUNE 7-11, 1937

# Brand new—SCHUMANN'S "OBSTETRICS"

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**3 new editions in SAUNDERS ADVERTISEMENT—Page 3**

## SUBJECT INDEX TO THIS ISSUE

The letters used to explain in which department the matter indexed appears are as follows: The Star (*) indicates an Original Article; "ab," abstract; "E," Editorial; "C," Correspondence; "Ml," Medicolegal; "ME," Medical Economics.


Accidents, deaths from, increase, Ala.....796
Acid, cevitamic, milk not potent for.....E-792
cevitamic, rheumatic fever and.....ab-823
glycollic, metabolism .....ab-822
Acromegaly, rôle of pituitary in.....ab-836
Actinomycosis, maxillary .....804
of ovary .....ab-829
Aerophagia in ptosis.....ab-831
Alcohol injection in trigeminal neuralgia...*771
Allergy, tonsillectomy in.....ab-826
Anemia, nitrogen metabolism during blood regeneration .....ab-823
Anesthesia, local, prolonged action.....810
Arsphenamine exanthems, severe, favorable effect on syphilis.....ab-835
fixed eruption .....ab-820
Arteries, pulmonary arteriography.....802
Arthritis, chronic, and B. coli infection..ab-828
Aschaffenburg, Gustav, 70 years old.....804
Asthma and common colds.....ab-825
Aviation, protection against poison gas.....801
visual disorders in air service candidates..804
Bacillus coli in potable water, effect of storage .....ab-829
coli infection and rheumatoid arthritis..ab-828
funduliformis septicemia .....803
Barcroft, Sir Joseph, to address Cleveland Academy .....798
Bejel—nonvenereal syphilis .....E-793
Blindness, causes, in Pennsylvania.....*757
Blood coagulation, vitamin C effect on...ab-832
sugar levels, normal.....813
**Board Examinations.....814**
Bone atrophy, acute transverse.....ab-823
tumors, roentgen therapy.....ab-822
**Book Notices.....815**
**Books Received.....Adv. Page 28**
British Medical Association resolution on gas warfare .....801
**Bureau of Legal Medicine and Legislation..818**
Canadian Medical Association.....800
Cancer in childhood, Germany.....803
pain, action of cobra and snake venom...813
statistical survey, Germany.....804
Carbohydrate metabolism and pituitary..ab-836
Children, normal, voluntary food habits...*765
Chlorophyll and hemoglobin regeneration.ab-829
Cinchophen, safe method of administration?.*760
Colds, common, and asthma.....ab-825
what is a cold?.....ab-830
Colostrum, secretion and fetal viability.....803
Columbia University, faculty changes.....798
Cornea, shell membrane of bird's egg as protective plastic for.....ab-834
**Correspondence .....809**
**Council on Pharmacy and Chemistry.....791**
**Council on Physical Therapy.....790**
**Deaths .....806**
Dental demonstration, Indiana.....797
Dermatology, borderline ray therapy.....ab-836
Dermatophytosis; dermatophytids .....ab-820
Diabetes Mellitus, postprandial insulin in..*768
coma, deaths from.....800
deaths from, increase, Illinois.....796
Diphtheria bacilli, rapid identification of carriers and .....ab-832
prevention program, Iowa.....797
Dog bites and Mr. Terhune.....C-809
Drugs, naming of medicaments.....C-809
nation of medicine drinkers, England.....801
U. S. P. and the physician.....*780; E-794
Dye industry, hazards.....813
Dysmenorrhea, presacral sympathectomy.ab-821
Dystrophy, adiposogenital, diet and pregnancy urine extract for.....ab-824
muscular, glycollic acid metabolism....ab-822
muscular, nutritional, dietary factors...ab-824
Eclampsia, treatment, thyroxine.....ab-834
Elsberg, C. A., honored.....798
Eyes, hypertension in glaucoma.....*774
Face, plastic repair of defects from cancer surgery .....ab-826
Fasciagraphy .....ab-819
Fetus, garlic breath odor.....C-809
Food habits, voluntary, of normal children.*765
Foot, dermatophytosis and dermatophytids.ab-820
**Foreign Letters.....801**
Frambesia in Australian aborigines.....ab-830
Furunculosis of auditory canal; bacteriophage treatment .....ab-825
Gallbladder, roentgen study.....*755
strawberry, surgery for.....ab-833
Gangrene in nevus vasculosus.....ab-821
Garlic breath odor.....C-809
Gas warfare, B. M. A. resolution on.....801
Glaucoma, absolute, roentgen irradiation of eyes .....ab-835
ocular hypertension in.....*774
**Government Services.....800**
Grigsby, C. M., honored on completing 25 years of teaching.....799
Hand, dermatophytosis; dermatophytids..ab-820
Hay Fever, reaction after foreign protein injection; value of artificial fever.....813
Health at Memphis.....799
department, syphilis control program....*782
new department, Japan.....805
public, England .....801
service for college students.....ME-795
service, rural, in U. S.....799
unit, first county, established, Wis.....799
units, new .....799
Heart stimulants, use in infectious diseases .....ab-819
Heat lamp, simple, inexpensive.....*780
Hemoclastic Crisis, Hesse-Filatov treatment .....ab-833
Hemorrhage, chlorophyll and hemoglobin regeneration after .....ab-829
treatment, value of cobra and snake venom.813
Hog cholera, Salmonella suipestifer not cause of .....C-809
Hospitals, taxation, Japan.....805
bequests and donations.....800
city, overcrowded, New York.....798
Veterans,' more to be built.....800
Industrial disease bureau, new, Baltimore..797
Infectious Diseases, use of cardiac stimulants .....ab-819
Instrument, fraudulent repair man.....799
Insulin, postprandial .....*768
Intestines, death in strangulation due to toxin .....802
tuberculosis, pneumoperitoneum in....ab-832
Jaundice after cinchophen.....*760
Jaws, actinomycosis .....804
*Journal of Connecticut State Medical Society*.796
Kidney function test, excretory urography .....ab-825
Lactation, indication that fetus has died.....803
Leukemia, monocytic .....ab-824
Life, mode of, of nonagenarians.....ab-835
Lung cysts, congenital.....ab-821
right, middle lobe roentgen appearance in health and disease.....ab-819
McCordock, H. A., succeeds Dr. Loeb.....797
Malaria parasites, infect reticulocytes....ab-834
Malpractice: limitations of actions; retroactive effect of statute.....Ml-818
limitation of actions; tort not contract limitation applicable .....Ml-818
**Marriages .....806**
**Medical Economics.....795**
**Medical Examinations and Licensure.....814**
Medical Service for college students....ME-795
**Medicolegal Abstracts.....818**
**Meetings, Coming Meetings.....818**
Mental Disease, England.....801
Mental Hygiene clinic, New York.....798
Milk not potent for cevitamic acid.....E-792
vitamin C in, effect of freezing.....ab-836
Mitral Valve defects, actinocardiogram...ab-834
Moynihan, Lord, presentation to.....802
Myeloma, multiple, urine in.....ab-833
Neuralgia, trigeminal, alcohol injection in.*771
Nevus flammeus, borderline ray therapy..ab-836
vasculosus accompanied by streptococcic bacteremia .....ab-821
**New and Nonofficial Remedies.....791**
**News .....796**
Nitrogen metabolism and anemia.....ab-823
Nose, cytology of secretions.....ab-827
Obesity, pathogenesis .....ab-832
Old Age, mode of life and.....ab-835
Orange juice, vitamin C in, effect of freezing .....ab-836
Osteomyelitis, treatment, cod liver oil and plaster cast .....ab-833
Osteopathy in England.....E-794
Ovary, actinomycosis .....ab-829
Pantocain, local anesthetic.....810
Paralysis, General, of insane, malaria treatment .....801
Penis, zipper trauma.....C-809
Pharmacopeia, and physician.....*780; E-794
Physicians, taxation, Japan.....805
Pituitary and carbohydrate metabolism...ab-836
Pneumoconiosis, black sputum.....*778
risk of silicosis in sandblasters.....ab-831
Poisonings, number in 1935, Japan.....805
Poliomyelitis, anterior, types of pain characterizing .....813
Poliomyelitis, pooled human convalescent serum for; where obtainable; dosage...812
prevalence, Alabama .....796
Pollen at Miami.....813
Purpura haemorrhagica, treatment.....ab-834
Pylorus spasm, etiology.....ab-836
spasm in childhood.....ab-835
**Queries and Minor Notes.....810**
Quinine and urea hydrochloride, local anesthetics .....810
Rabies, mad dogs and Mr. Terhune.....C-809
in Columbus, O.....798
Radium, distribution of gamma radiation.ab-828
Reticulocytes, infection by Plasmodium malariae .....ab-834
Reticulo-endotheliosis, leukemic .....ab-824
Rheumatic Fever, cevitamic acid and....ab-823
Rheumatism, histamine injections for.....803
Roentgen Rays, borderline ray therapy...ab-836
Salmonella suipestifer not cause of hog cholera .....C-809
Sandblasters, risk of silicosis in.....ab-831
Sanitation, new department, Japan.....805
Septicemia, B. funduliformis.....803
Silver arsphenamine dermatitis.....ab-820
Skin disease, borderline ray therapy.....ab-836
Smart, Sir Morton.....E-794
Smith, Oakley, osteopathy in England....E-794
**Society Proceedings.....818**
Spine curvature, alternating scoliosis.....ab-823
Sputum, black .....*778
**State Board Examinations.....814**
Streptococcic bacteremia with nevus vasculosus .....ab-821
Students, college, medical service for...ME-795
Suicide attempted by poisoning, Japan.....805
Syphilis among Australian aborigines....ab-830
bringing it into the light.....E-792
control program, administration.....*782
diagnosis, based on penile sore alone.....810
experimental "nonapparent" .....802
favorable effect of severe arsphenamine exanthems on .....ab-835
in infant; 4 plus Wassermann at birth but negative 6 months later.....812
intermittent treatment, in rural areas....810
latent, treatment .....812
nonvenereal—bejel .....E-793
practical epidemiology .....*784
prophylaxis, within an hour after intercourse .....810
state health department furnishes drugs, Wash. .....799
third generation .....810
treatment, development of adequate facilities .....*787
treatment: effect of rest.....ab-820
Tandler, Julius, death.....800
Taxation of physicians and hospitals, Japan.805
Testes, undescended, pregnancy urine extract for .....ab-824
Tinnitus aurium, experimental research..ab-829
**Tonics and Sedatives.....Adv. Page 22**
Tonsillectomy in allergic patients.....ab-826
Tonsils, tuberculosis .....ab-828
"Transparent Woman" .....798
Trichomonas vaginal infestation.....ab-827
Trochanter, greater, isolated fracture....ab-831
Tryparsamide, sensitivity to.....ab-820
Tuberculosis, educational campaign, La.....797
immunizing power of smooth colony...ab-831
International Union against, postponed...800
mortality decline, England.....801
prevention, campaign, Arizona.....796
Tumor, malignant, Cozad-Ford Collection, Cleveland .....798
Typhoid and floods, Md.....797
traced to spring water, N. J.....798
University, student health service.....ME-795
Urea hydrochloride and quinine, local anesthetics .....810
Urethra, cancer in female.....ab-825
Urography, excretory, as renal test.....ab-825
Uterus cancer, early diagnosis, Schiller's iodine test .....ab-830
tuberculosis .....ab-828
Vancouver Medical Association summer school .....800
Venereal Disease control officer.....*782
Venom, therapeutic properties.....813
Veterans' administration to build more hospitals .....800
Vidrine, A., resigns from Charity Hospital.797
Vision, disturbances in air service candidates .....804
Vital Statistics, England.....801
Vitamin C, effect of freezing on.....ab-836
C, effect on blood coagulation.....ab-832
Water, drinking, on ships, B. coli in....ab-829
Zipper trauma of penis.....C-809


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# CHOLECYSTOGRAPHY

## CHAIRMAN'S ADDRESS

E. L. JENKINSON, M.D.

CHICAGO

Cholecystography, as brought forth by Graham, Cole and their co-workers, is quite generally accepted in determining whether or not the gallbladder is functioning normally. The work of Kirklin, Moore, Stewart and others has done much to prove the accuracy of the method. Through careful cholecystographic studies and with an abundance of available material, Kirklin has had an excellent opportunity to check his roentgenographic observations operatively and pathologically. Other investigators have also done much work which has substantiated the original work of Graham and Cole. Since the method was originated there has been ample time and sufficient operative and pathologic study to prove its accuracy. There is practically no procedure in diagnosis which has demonstrated so conclusively its accuracy and importance when made under proper conditions; namely, close cooperation and control of the patient from the time the dye is taken until the last film is made.

The importance of cooperation of the patient is demonstrated in many ways. First, the patient should refrain from taking any fatty foods by mouth from the time the dye is administered until after satisfactory films have been obtained. It is also important that the patient be carefully instructed regarding the importance of movement and breathing during the x-ray exposures. Slight movement will oftentimes obliterate a normal gallbladder shadow. It is not uncommon during the course of the radiographic examination to be unable to outline the gallbladder on one film but on the second film, taken immediately following, to see a normally filled gallbladder. This is usually due to movement. With this fact in mind, it is essential that the patient be informed that it is imperative that there be no movement or breathing during the x-ray exposures and that the exposures should be made as rapidly as possible to obviate any movement. The various positions in which the examinations are made have been described so thoroughly by other writers that I will not go into the details of the procedure in this paper. Occasionally it is necessary in the presence of a shadow in the right upper quadrant which is located in the area of the dye-filled gallbladder to make lateral exposures in order to state definitely whether or not the shadow is within the gallbladder. I have found the lateral examination of value in differentiating intracholecystic shadows from extracholecystic shadows.

Read before the Section on Radiology at the Eighty-Seventh Annual Session of the American Medical Association, Kansas City, Mo., May 13, 1936.

Cholecystographic examinations were done on ninety-five individual patients. Of these forty-nine were females, forty-six were males, and the average age was 42 years. Of the ninety-five patients examined, seventy showed normal visualizations. All the ninety-five patients had symptoms thought to be due to gallbladder disease. Many interesting facts have been learned in the compilation of the material for this paper, the most interesting observation being the frequency with which a normal cholecystographic response was obtained in the presence of symptoms that were interpreted as being due to gallbladder disease by competent internists. It seems rather unusual that in the presence of so-called gallbladder symptoms only twenty-two pathologic responses were obtained radiographically in these ninety-five cases, all of which had been carefully worked up clinically. Three patients failed to retain the dye for fifteen minutes and the lack of filling was not considered sufficient evidence to warrant a diagnosis of nonfunction. These patients refused further examination.

It is not my intention to try to prove the superiority of cholecystography over the time proved clinical examination but rather to correlate all the observations and determine whether they are in accord or at variance as regards the clinical changes presented by the patient. I was prompted to undertake this investigation because of some rather embarrassing operative results that followed the reports of pathologic gallbladders after one cholecystographic examination. The operation was usually performed a month or so following the radiographic examination. I do not mention this interval between the radiographic examination and the operation as an alibi; it did, however, furnish food for thought. The following reasoning was pursued: First, was it not possible that the gallbladder or the cystic duct was inflamed during the time at which a negative radiographic response was obtained and later the inflammation and edema either in the gallbladder or in the cystic ducts had subsided and at the time of operation the gallbladder appeared normal and the surgeon thought it inadvisable to remove it? One might even go further and in the presence of edema in the cystic duct obtain a nonfilling gallbladder, and at operation with removal of the gallbladder the pathologic report would show a normal gallbladder. It is well known that inflammation in other parts of the body, namely, the ostea of the accessory sinuses of the face and head, inflamed during acute infections, obstruct drainage and later return to normal. It is my belief that the same fact can be rightfully applied to the gallbladder or cystic duct. With these points in mind I thought that it would be advisable and important to investigate all nonfilling gallbladders and subject the patient to at least a second examination after a period of a month before stating whether or not the gallbladder was functioning.

It was my object when this work was undertaken to obtain 100 nonfilling gallbladders. After the 100 were obtained it was my intention to place fifty of the patients on a normal diet as controls and fifty on a gallbladder diet, rich in fats, with the addition of dehydrocholic acid. I am reporting only the cases in this series in which the gallbladder diet plus the dehydrocholic acid were used. The management which was carried out as a routine measure on the patients varied according to the individual but consisted essentially of frequent feedings made up of as much milk, cream, butter and eggs as the patients could tolerate, plus puréed vegetables and puréed fruits. Most patients were fed every hour or two. In addition to the foregoing, most of the patients were on antispasmodics and dehydrocholic acid. The dosage of dehydrocholic acid was 3¾ grains (0.25 Gm.) three times a day with meals.

Any one familiar with cholecystographic examinations is aware of the emptying power inherent in fats such as milk, cream and yolk of eggs. Many investigators have proved conclusively that small stones in the gallbladder have been expelled after the patient has been on a diet rich in fats. I believe that it is possible to have a small stone in the neck of the gallbladder or the cystic duct, and obtain a nonfilling gallbladder. In the same patient after the ingestion of foods rich in fat it is not uncommon at the second examination to procure a normal cholecystographic response. The presence of multiple stones in the gallbladder which can be definitely outlined does not militate against the possibility of a normal functioning gallbladder radiographically. This fact has been proved by many investigators and in this series there are a number of patients showing multiple stones in the gallbladder who on repeated cholecystographic examinations showed a normal response. It is not my intention, however, to intimate that the majority of gallbladders containing stones function normally. This observation has been made repeatedly. A patient with a nonfunctioning gallbladder will frequently show multiple soft stones after a month's interval, having been on milk, cream, egg yolks and dehydrocholic acid.

While I have not reached my goal, owing to lack of time and to the difficulty in obtaining patients with gallbladder symptoms who show a negative response, I believe that the facts obtained are at least worthy of some consideration. Although the number of patients that I have had has been limited and far below my expectation, I do not hesitate to make this statement: A patient with fairly typical gallbladder syndrome following one negative gallbladder response does not conclude the necessity for immediate operative intervention, as the patient frequently will show a normal cholecystographic response at a later examination. Before any patient is subjected to surgery he or she should be reexamined radiographically after an interval of one month or, even better, reexamined after an interval of a month with the patient having been on a diet rich in fats during the intervening period. Many writers emphasize the importance of the presence or absence of stones as an indication for operation; therefore a second examination may be helpful in establishing these facts.

Another rather interesting observation in this series of cases was the bizarre symptomatology in patients who showed a negative cholecystographic response. Some of these patients had only vague symptoms referable to the gallbladder, their chief complaints being generalized abdominal distress, constipation and irritable bowel. Many were tender on palpation over the colon and in the epigastrium. The clinical course of many of these patients seems to parallel quite accurately the cholecystographic response, that is, taking a patient with symptoms attributed to gallbladder disease, followed by a negative cholecystographic response, there was usually a marked improvement of the symptoms following medical management including dehydrocholic acid. Likewise the cholecystographic response at this time was either improved or normal. These same patients who frequently showed an exacerbation of symptoms and were immediately subjected to cholecystographic examination usually showed a poorly functioning or a nonfunctioning gallbladder. From these observations it would appear that, in the absence of stones, proper medical management favorably influences the symptomatology of the patient, and the function of the gallbladder is correspondingly improved radiographically. A few patients showed no improvement after a rather prolonged medical regimen and likewise showed no improvement in the radiographic gallbladder appearance. Owing to the fact that the gallbladder could not be visualized in these patients it was impossible to state whether or not stones in the gallbladder were responsible for the nonfilling or possibly the gallbladder and cystic duct were incorporated in a mass of adhesions. Unfortunately, from a statistical point of view, none of these patients have as yet been subjected to surgery.

For a matter of convenience and clarification, I have divided the series of ninety-five cases into eight classes:

1. Normal responses, seventy. Eighteen were rechecked.
2. Pathologic response followed by a normal response, eight.
3. Stones in the gallbladder, with normal responses on two or more examinations, two.
4. Stones in the gallbladder with poor responses, four.
5. No dye in the gallbladder on two or more examinations, five.
6. Normal response followed by nonfilling, one.
7. Unsatisfactory responses; patient vomited dye, did not cooperate, three.
8. Variable responses; that is, responses would be normal one time, poor the next, normal, poor, two.

The oral method of examination was used in this series. One would infer that the oral ingestion of the dye is very satisfactory, as only three of the patients in this series were unable to retain it for a sufficient period of time which was felt to be necessary for its absorption. I have also made the deduction that, if a patient will retain the dye for one-half hour or longer, enough will be absorbed to give a satisfactory shadow in the presence of a normal functioning gallbladder. This statement is made in view of the fact that a number of patients vomited a half hour after the oral administration of the dye, and the gallbladder cast a normal radiographic shadow.

## CONCLUSIONS

1. In this series a large percentage of the patients with symptoms referable to the gallbladder gave normal cholecystographic responses. Seventy patients of the total of ninety-five, or 73 per cent, showed a normal functioning gallbladder.

2. Eight, or 40 per cent, of the twenty patients with nonfunctioning gallbladders showed a normal response radiographically after medical management.

3. Of the twenty patients, five, or 25 per cent, showed a negative cholecystographic response on two or more occasions even after medical management.

4. From past experience substantiated by the results of this series, one negative cholecystographic response is not an indication for immediate operative intervention even in the presence of gallbladder symptoms. I believe that more than one negative radiographic examination is necessary before the patient should be subjected to surgery. The presence of gallstones is probably the most important indication at this time for surgical intervention. Cholecystography after a gallbladder regimen will often clarify this important query.

1439 South Michigan Avenue.

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# CAUSES OF BLINDNESS IN PENNSYLVANIA

## FROM THE MEDICAL AND SOCIAL ASPECTS

ALFRED COWAN, M.D.
State Supervising Examiner for Pensions for the Blind
AND
S. MERVYN SINCLAIR, B.A.
Executive Director, Pennsylvania State Council for the Blind
PHILADELPHIA

Unfortunately, in the various state acts relating to blind persons there is such a wide variation in the definition of blindness and in the procedure by which the blindness of an individual is determined that it has been extremely difficult, if not impossible, to gather together data of such a nature that they can be studied on the basis of any uniform standard.

In an effort to overcome this difficulty and to establish a uniform definition of blindness and classification of the causes of blindness, there was organized some years ago a Committee on Statistics, a body composed of representatives of the American Foundation for the Blind, the National Society for the Prevention of Blindness, the American Association of Workers for the Blind and the Statistical Committee of the Section on Ophthalmology of the American Medical Association. Out of the deliberations of this committee have come certain recommendations and suggestions which, if generally adopted, will give a uniformity of statistics on blindness that has not heretofore been available.

The enactment of legislation in Pennsylvania for blind relief, very shortly after the recommendations of the Committee on Uniform Statistics had been made public, presented an opportunity for putting these recommendations into effect on a large scale.

The Pennsylvania blind relief law, while conforming in many respects to similar laws in other states, differs from all the others on three major points—the method of its administration, the procedure to be followed in determining the causes of blindness and the definition of blindness.

In Pennsylvania there has been for more than twenty years an established organization for the administration of the Mother's Assistance Fund, known in some states as Widow's Aid. This fund is administered by county boards of trustees who serve without pay. It is supervised by the parent organization in the state welfare department. Social welfare programs are carried on by qualified, paid workers. When acts were passed for relief for the blind and for assistance to the aged, it was wisely provided that responsibility for their administration should also be placed in the hands of these already efficiently functioning boards. This method of administration has served as a model for many other public health and social welfare programs in Pennsylvania and other states.

The method decentralizes relief and brings blind recipients in close touch with the agents of the state who distribute the grants. It makes possible certain other social services, services that a small pension cannot provide but which most individuals and their families need. The person who needs teaching or is employable is brought to the attention of the agency skilled in teaching the blind or to employment officers, who are often able to find work for the capable. Health problems of the pensioner and his family are referred to the family physician, if there is one, and otherwise to the organization best equipped to deal with them. But probably the most valuable factor in administering relief through the Mother's Assistant Fund is the opportunity it affords to protect family contacts against unnecessary eye hazards. Social workers taught to organize a sound social hygiene program and trained to recognize deviations from the normal eye conditions can secure for their wards the medical care and continued treatment which are often the sole means of preventing blindness.

The regulations of the act require every applicant to submit himself to an accredited ophthalmologist for examination and they further provide that the ophthalmologic reports pass through the hands of a supervising ophthalmologist attached to the staff of the department of welfare. This makes possible a uniformity of judgment and diagnoses which can be secured in no other way. Of all the other states having blind relief laws, Missouri alone provides for a similar procedure.

These provisions have made available for study and analysis what is probably the largest single series of reasonably descriptive reports of blind eyes up to the present time. It is estimated that they represent about 50 per cent of all the blind in the state, and from the data contained there can be deduced, with a fair degree of accuracy, the relative percentages of the various ophthalmic diseases which are the sole or main contributing cause of blindness; the underlying etiologic factors; the distribution of the blind throughout the state, and the predominance of the various causes and their relation to the prevailing occupations in the locality found; the relation of prevalence of blindness in certain localities to accessibility to competent medical assistance; blindness due to ignorance, carelessness or poverty; blindness due to traumatism; accidents to the good eye of one-eyed persons; heredity, and so on. While we intend to elicit eventually much information of value from both the medical and the social aspects, the present communication is limited to a more or less general survey and classification of the various causes of blindness.

At the outset it is only fair to state that the final analysis must be faulty to a certain extent. It should be considered that the applicants, in most instances, submitted themselves for examination long after all activity of the primary disease had subsided—in the majority of cases many years after—and sometimes with one or two empty sockets. The examining physician seeing a person for the first time, with no case record of the disease before him, is compelled to base his diagnosis on the appearance of the eye at the time of examination and to the frequently faulty history by the patient himself. It should be considered also that much of the substance of the reports necessarily depends on the

Valuable help was rendered by Mrs. Bernice English, of the Council for the Blind, State of Pennsylvania.
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answers of elderly, ignorant or otherwise unreliable patients, or even intelligent ones with a tendency to distort facts.

The reviewer, with or without reason, was often made to feel that the given diagnosis was not always correct and this because of no fault of the examiner. For example, such diagnoses as congenital microphthalmus or congenitally undeveloped globes might easily be the sequelae of ophthalmia neonatorum. One report, illustrating the extreme difficulty of eliciting information from the patient, stated "Eye enucleated. No injury. Pathology not known." Many other examples might be mentioned. The primary disease given was

TABLE 1.—*Causes of Blindness*

| | |
|---|---|
| **Congenital Anomalies** | |
| Glaucoma | 53 |
| Defective globes | 197 |
| Albinism | 10 |
| Anophthalmos | 10 |
| Neuroretinitis | 2 |
| Coloboma of choroid | 2 |
| Cataract | 229 |
| Optic atrophy | 29 |
| Coloboma of optic nerve head | 2 |
| Total (4.5%) | 534 |
| **Traumatism** | |
| Penetrating wound of globe | 989 |
| Uveitis | 91 |
| Sympathetic ophthalmia | 232 |
| Keratitis | 72 |
| Insect bite | 4 |
| Burns | 149 |
| Hemorrhage into vitreous | 8 |
| Rupture of choroid | 5 |
| Cataracts | 66 |
| Detachment of retina | 26 |
| Optic atrophy | 91 |
| Optic tracts and centers | 4 |
| Neuroretinitis | 17 |
| Total (14.68%) | 1,754 |
| **Lids** | |
| Carcinoma of lids | 2 |
| **Conjunctiva** | |
| Ophthalmia neonatorum (3.9%) | 470 |
| Purulent conjunctivitis | 71 |
| Gonorrheal conjunctivitis | 17 |
| Diphtheritic conjunctivitis | 2 |
| Trachoma | 64 |
| Photophthalmia | 4 |
| Pemphigus | 12 |
| Pterygium | 10 |
| Total | 650 |
| **Globe** | |
| Glaucoma, chronic | 1,465 |
| Glaucoma, acute | 116 |
| Total (13.34%) | 1,581 |
| Glaucoma, juvenile | 8 |
| Tumors | 4 |
| **Cornea** | |
| Keratitis, interstitial (1%) | 124 |
| Keratitis, ulcerative | 194 |
| Keratitis, undetermined | 12 |
| Keratitis, exposure | 2 |
| Keratitis, marginal | 1 |
| Corneal dystrophy | 12 |
| Keratoconus | 8 |
| Keratomalacia | 2 |
| **Uvea** | |
| Uveitis (12.63%) | 1,496 |
| Choroiditis, atrophic (4%) | 480 |
| Choroiditis, suppurative | 5 |
| **Lens** | |
| Cataract, senile (22.49%) | 2,666 |
| Cataract, juvenile | 22 |
| Cataract, diabetic | 4 |
| Cataract, endocrine | 6 |
| **Retina** | |
| Retinitis, vascular | 244 |
| Retinitis, diabetic | 82 |
| Retinitis, nephritic | 43 |
| Retinitis, pigmentosa | 236 |
| Retinitis, leukemic | 2 |
| Detachment of retina | 82 |
| Senile macular degeneration | 21 |
| Total | 710 |
| **Vitreous** | |
| Hemorrhage into vitreous | 13 |
| Abscess of vitreous | 2 |
| **Optic Nerve** | |
| Optic atrophy, simple (10.1%) | 1,202 |
| Papilledema | 60 |
| Neuroretinitis | 293 |
| **Miscellaneous** | |
| Amaurosis | 4 |
| Nystagmus | 2 |
| Total | 6 |
| Total | 11,852 |

often, therefore, mere conjecture and it is fortunate that the act makes it a requirement that the examining physician must be an accredited ophthalmologist, one whose opinion is of value.

While the causes of blindness as given in the series as a whole are reasonably reliable, the same cannot be said with regard to the underlying etiologic factors, which are given in table 1. Even with all our modern facilities, an underlying etiologic factor often cannot be found, much less in these examinations, in which it was almost always necessary to obtain the information from the applicant himself. Every clinician knows how a patient will associate one disease with another or with some accident which might or might not be material. The supervising examiner has taken the liberty of rejecting a number of given etiologic factors such as when, for example, influenza, eyestrain or diseased tonsils was given as the cause of senile cataract. It could be plainly seen that often an examiner had thoughtlessly jotted down the patient's statement. But whenever a reasonable underlying cause was given it was accepted as positive, even though the examiner himself had expressed a doubt.

The tabulation is of the eyes of those who, with visual acuity of less than 3/60 or 10/200 with both eyes, were defined as blind persons according to the original act. In the last act, approved July 9, 1935, one with visual acuity of 3/60 or 10/200 or less was defined as a blind person.

In order to serve the purpose of this report best and to avoid overlapping, one diagnosis only, the primary disease which was considered to be the main cause of blindness, was chosen from the data. Complications, sequelae and secondary disorders are not mentioned. Also, because in so many instances the cause of blindness was found to differ in the two eyes of one individual, eyes and not persons are enumerated.

In arranging the various diseases into the twelve groups comprising the present classification, some explanation is in order. The compilation of such a large number of reports by so many physicians made it necessary, of course, to condense terms and to modify them to a considerable extent in many instances.

Those cases of congenital anomalies the report of which indicates more than one disease entity are grouped under "defective globes." These include also such notations as underdevelopment or malformations. Classified under penetrating wound of the globe are included not only those reported as penetrating wounds but also intra-ocular foreign bodies, adherent leukoma, gunshot wounds, eyes lost in explosions, and other injuries vaguely described but resulting in the loss of an eye.

Such diagnoses as iritis, iridocyclitis, kerato-iritis, plastic iritis, cyclitis and complicated cataract are placed under the heading of uveitis. This group includes all disorders of the uveal tract except when there was a definite diagnosis of choroiditis or the description warranted; but even some of these are grouped under uveitis if, in addition, there were other changes noted such as complicated cataracts. Chorioretinitis, retinochoroiditis and chorioretinal atrophy are all grouped under choroiditis.

It is considered permissible to include among senile cataracts all those diagnosed as diabetic in which the lenses became opaque after the age of 50 years, although a notation is made of the associated diabetes. Needless to state, in numerous instances in which the cause of blindness is given as senile cataract there was a previously existing retrolenticular condition that could not be determined. This can be inferred from the numerous absolutely blind persons with senile cataract.

All nontraumatic intra-ocular lesions due primarily to vascular disease such as hemorrhages and exudates in the retina, embolism, thrombosis, proliferans, angiosclerosis and so on, are included under vascular retinitis.

All those diagnoses such as retinochoroiditis, chorioretinitis and optic neuritis which resulted in optic atrophy, and also those cases which were designated as secondary optic atrophy or optic neuritis without notation of any other lesions, are classified as neuroretinitis.

It will be seen that the most frequent cause of blindness in this tabulation is senile cataract, 22.49 per cent. Of the total number of these eyes, 2,666, 1,927 were

not operated on for various reasons—through neglect, unwillingness or other reasons on the part of the patient, or because of poor operative risk. The remainder, 706 eyes, were failures, either because of postoperative complications or of some previously existing retrolental lesion. This is certainly a small proportion of the great number of cataract operations performed.

Traumatism is next in importance as a cause of blindness, 14.68 per cent. This percentage of blindness due to trauma is no indication of the great number of individual eyes lost through accident. For the past fifteen years approximately 450 eyes each year have been lost by industrial accidents and in no year has there been more than twenty double eye accidents.

Glaucoma of the adult type occurred in 13.34 per cent of all cases. Of the total number, 768 were operated on, at least 120 received inadequate treatment, as indicated in the reports, and 204 received no treatment whatever.

Uveitis, with a percentage of 12.63, is extremely high when it is considered that choroiditis and the traumatic and postoperative disorders of the uvea are not included in this group.

Simple optic atrophy ranks next, with about 10 per cent of the total.

TABLE 2.—*Given Etiologic Factors, Other Than Traumatism, Senility and Congenital Anomalies*

| | | | |
|---|---|---|---|
| Gonorrhea | 17 | Scarlet fever | 50 |
| Malnutrition | 2 | Tuberculosis | 20 |
| Tetany | 3 | Unknown organisms | 71 |
| Endocrine disease | 5 | Diabetes | 94 |
| Leukemia | 2 | Purpura haemorrhagica | 2 |
| Syphilis | 566 | Black fever | 2 |
| Myopia | 272 | Disseminated sclerosis | 6 |
| Diphtheria | 8 | Hydrocephalus | 10 |
| Pneumonia | 4 | Infantile paralysis | 2 |
| Streptococci | 2 | Pituitary disease | 12 |
| Meningitis | 72 | Cardiovascular disease | 270 |
| Whooping cough | 12 | Nephritis | 53 |
| Focal infections | 26 | Paget's disease | 2 |
| Carbuncle | 2 | Toxemia | 72 |
| Measles | 28 | Erysipelas | 2 |
| Arthritis | 8 | Brain tumor | 108 |
| Pregnancy | 14 | Other tumors | 4 |
| Sinusitis | 4 | Typhoid | 14 |
| Influenza | 41 | Consanguinity | 2 |
| Smallpox | 8 | Encephalitis | 6 |

The percentage of ophthalmia neonatorum, 3.9, ranks lower than congenital anomalies, with 4.48 per cent.

In general it will not be possible to apply these causes of blindness universally throughout the United States. This can readily be understood from the wide variation in causes of blindness and the percentages, when the total figures for the whole state are broken down into counties. These differences appear to bear a distinct relationship to the industries predominant in the community, the racial and other characteristics of the population, the facilities for adequate care and the general understanding of the need for such care in the early stages of any eye disease. For instance, through those sections of Pennsylvania in which mining is the predominant industry, a high percentage of the blind population have lost their sight as a result of explosion accidents which have at one time destroyed both eyes. In certain other areas which are extremely rural and in which there is little or nothing in the way of specialized medical service, large percentages of the blind have lost their sight from causes which would or might have yielded to prompt treatment in the early stages, and also such conditions that could have been corrected by operation. Again, such diseases as trachoma, which is the most common cause of blindness in certain states, is extremely rare as a cause of blindness in Pennsylvania.

Table 2 must be considered of questionable value both from the standpoint of the actual underlying etiologic factor as has been explained, and also with regard to the number. For example, probably most of the 470 cases of ophthalmia neonatorum were gonococcic infections, yet gonorrhea is given as the underlying cause of the loss of only seventeen eyes. The same may be said of syphilis with relation to interstitial keratitis. On the other hand, the numbers seventy-two, fifty and forty-one for meningitis, scarlet fever and influenza, respectively, are undoubtedly exaggerations.

1930 Chestnut Street.

## ABSTRACT OF DISCUSSION

DR. E. V. L. BROWN, Chicago: The payment of goodly sums of money to the blind in the shape of pensions has again added to our knowledge of conditions which cause blindness, this time in an industrial and mining state, Pennsylvania. The only previous highly valuable report was from an agricultural state, Missouri. The unusual significance of these two reports is due to the fact that the laws in these states require an examination of the eyes by an accredited eye doctor. Three other states, namely, Colorado, Idaho and Oklahoma, and the District of Columbia now require examination by an eye doctor, but no reports concerning the causes of blindness found in these states have appeared, so far as I can learn. In Pennsylvania the information obtained by the local eye doctor is passed on by a state supervising examiner, at present Dr. Cowan. Dr. Cowan has wisely edited, i. e., interpreted, the reports thus furnished him and arranged and classified them according to diseases and etiologic factors. He estimates that the report covers about half of the actual number of blind in the state. If the roughly 12,000 eyes thus reported on come from 6,000 individuals, this would make around 12,000 blind in the state. This 12,000 figure, when put alongside the 1930 federal census figure of 4,373 blind in Pennsylvania, demonstrates how effective a money inducement is in bringing out an otherwise undisclosed condition. The Missouri law did much the same thing. In these increasingly accurate statistics, some well known and some heretofore less well determined facts stand out. For instance, senile cataract was the diagnosis in 22 per cent of those who became blind in Pennsylvania. Trauma caused 15 per cent of the blindness. Seventeen per cent for uveal disease is surprisingly high. Four per cent for ophthalmia neonatorum shows what advance prevention work is making. Glaucoma rates high with 13 per cent; congenital anomalies run 5 per cent. Dr. Cowan first excludes trauma and congenital anomalies. He then excludes "senility" as a cause but does not state just what he means by senility as a cause of blindness. This might well include the 22.5 per cent caused by senile cataract, and then the three—trauma, congenital anomalies and senile cataract—would add up to 42 per cent. However, the long list of forty other etiologic factors determinable applies to only 1,898, or 16 per cent of the 11,852. This 16 per cent with known etiology, plus the 42 per cent excluded with known etiology, makes 58 per cent in which the cause of blindness in Pennsylvania may be considered to be known. But there are an equal number in the state who are not pensioned. We are therefore confronted with the startling fact that, in what is undoubtedly the best report our country has so far been able to produce, with a very large number of eyes, 12,000, all examined by eye doctors, one of the older states of the country has to admit that the cause of blindness is unknown in nearly three fourths of the cases. It is highly desirable, first, that other states follow and that more reports on the diseases in these eyes and the causes be made.

DR. WILLIAM H. CRISP, Denver: The problem of furnishing financial and other help for the blind is by no means simple. The need for a definition of blindness arises largely out of the need for a standard on which to base the assignment of charity to those who because of loss of sight are prevented from gaining their livelihood. The standard of blindness, from

the economic point of view, is actually bound to vary with the individual case. A former patient of mine with vision of about 20/240, or less than 10 per cent of normal, was successful in profitably raising young plants that were bought by the farmers in his neighborhood. Yet another man with better vision than this will be quite unable to earn a living. Technically, my old gardener had 100 per cent loss of industrial vision as measured by the standard adopted by the industrial commission of the state of Colorado. The patient's mental and moral equipment play an extremely important part in the problem, and the kind of work he attempts to do and to which his mentality can adapt itself is also extremely important. In some telephone services there are very efficient blind operators engaged in special services. The rules for provision of pensions to the blind, of course, make allowance for this phase of the problem. Statistics have been multiplied seemingly without end. Yet often the information afforded is far from reliable. Statistics are useful only as a basis for future action. Information about the blind in Pennsylvania is useful, as indicated by Dr. Cowan, as a basis for provision of various social services to the blind, including care of their general health, facilities for education and training, and opportunities for employment. Statistics have also an educational and prophylactic value in dealing with the general public. Unfortunately, some unreliable features of the information obtainable can never be altogether remedied because of remoteness of the time when loss of vision occurred, lack of technical records, and often inaccuracy in technical records because of carelessness or ignorance on the part of the general physician. Some causes of blindness seem rather hopelessly beyond control. Among these is the miscalculated dynamite explosion, from which so many of Dr. Cowan's miners lost both eyes. The attempt to remedy the condition of these patients is usually very discouraging, but it is often worth making if some sight remains in at least one eye.

DR. CONRAD BERENS, New York: Dr. Cowan should be congratulated on his careful study of 6,000 cases, which is almost double the number we reported on before this section last year. The group studied by our Committee on Statistics of the Blind is a fairly accurate cross section of students in schools for the blind in the United States. Our observations agree quite closely in certain respects with Dr. Cowan's statistics. Our figures in regard to the hereditary and congenital causes of blindness are naturally much higher (51 per cent) because our studies were concerned principally with young children. These studies clearly indicate the need for treating this group with greater intelligence. More thorough examinations and more carefully prepared records of the initial examinations of these cases will aid materially in obtaining the necessary statistical data regarding etiology. Possibly the examination and treatment of these cases are better organized and more thorough in Pennsylvania than they are in many other states, for Dr. Cowan's statistics do not show quite so clearly, as do the national statistics, the great need for improved methods in diagnosis and treatment. We found many children in these schools for the blind who should never have been admitted and many who could have been released had they received proper treatment. On behalf of the Committee on Statistics of the Blind, I again urge the continued cooperation of every ophthalmologist in this work. Initial examinations must be more thorough and records more complete if the data which our committee is assembling are to be valuable in directing programs for the prevention of blindness and for research in the etiology of diseases that result in blindness. Additional studies similar to those made by Dr. Cowan and by our committee are needed to maintain interest in these problems.

DR. ALFRED COWAN, Philadelphia: What I have said is the result of analysis of the data collected in the first year after the enactment of the law. There are twice this number of reports to consider by now. This first report lacks a certain value for this reason: When the law was enacted and administration begun, there came at once a group of applicants for pensions, composed of persons who had been blind for a number of years, up to seventy, eighty and ninety. Data of this kind, of course, are not nearly so valuable as they will be in the future years. In the future the reports of more recently blinded persons will be available. I do not think that the etiologic factors given here are of much value. The causes given are those recorded on the reports by the examining physicians. In many of these cases senile cataract was given as the diagnosis, when I know for a certainty, without having the privilege of writing it down, that there were some other conditions long before the cataract developed. Under a law in which the examiner is an accredited ophthalmologist, we shall have real data. This was to be a model law, and in the first draft it was required that the ophthalmologist be certificated by the board of ophthalmic examiners. That is in the act, but there was added "or one legally allowed to practice ophthalmology." In other words, they just emasculated that part of the act which we should like to retain as a qualification for the man who makes the examination. I think it would be fine if something could be done in that respect in future acts.

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# CINCHOPHEN—IS THERE A SAFE METHOD OF ADMINISTRATION?

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In this paper we shall attempt to answer the question "Can cinchophen be given safely if given carefully?" The question itself implies that cinchophen is a dangerous drug.

Cinchophen, phenylcinchoninic acid, seems to have been discovered in 1887 by Doebner and Gieseke [1] and to have been introduced into medicine under the trade name of atophan in 1908 by Nicolaier and Dohrn.[2] Since that time it has been used extensively for gout as well as for other forms of arthritis and for the relief of pain of all types. In 1932 Hench [3] listed thirty-two drugs known to contain cinchophen or its derivatives as the active constituent and stated that he had accumulated the names of 500 remedies advertised in American drug lists as cures for rheumatism or as uric acid solvents, many of which undoubtedly possess cinchophen as the base. It has been estimated by White [4] that the annual consumption of cinchophen and its derivatives in the United States is about 90,000 pounds.

No serious effects were noted from cinchophen until 1913, when Phillips [5] described certain skin reactions as indicative of an idiosyncrasy to the drug. In 1922 Schroeder [6] called further attention to its toxic effects. The first case of jaundice attributed to cinchophen was reported in 1923 by Worster-Drought [7] and the first fatal case with jaundice two years later by Richard Cabot.[8] In the decade that has elapsed, an increasing

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Owing to lack of space, this article has been abbreviated in THE JOURNAL by the omission of a tabulation of all published and unpublished cases of cinchophen poisoning that the authors were able to find to date. The complete paper will appear in the authors' reprints.

1. Doebner, O., and Gieseke, M.: Ueber A-Phenylcinchoninsäure und ihre Homolgen: Benzaldehyd, Brenztraubensäure und Anilin, Justus Liebig's Ann. d. Chem. **242**: 291, 1887.
2. Nicolaier, Arthur, and Dohrn, Max: Ueber die Wirkung von Chinolincarbonsäure und ihrere Derivate auf die Ausscheidung der Harnsäure, Deutsches Arch. f. klin. Med. **93**: 331, 1908.
3. Hench, P. S.: Derivatives of Cinchophen and Their Toxicity, Proc. Staff Meet., Mayo Clin. **7**: 427 (July 20) 1932.
4. White, E. P. C.: Study on a Series of Arthritic Patients Under Continuous Mono-Iodo-Cinchophen Treatment, with Special Reference to the Action of the Cinchophen Molecule on the Liver Tract, J. Lab. & Clin. Med. **17**: 17 (Oct.) 1931.
5. Phillips, John: Skin Rashes Following the Administration of Atophan, J. A. M. A. **61**: 1040 (Sept. 27, pt. 1) 1913.
6. Schroeder, K.: Cases of Cinchophen Poisoning, Ugesk. f. læger **84**: 1141 (Sept. 7) 1922.
7. Worster-Drought, Cecil: Atophan Poisoning, Brit. M. J. **1**: 148 (Jan. 27) 1923.
8. Cabot, R. C.: Acute Yellow Atrophy, Boston M. & S. J. **192**: 1122 (June 4) 1925.

number have been reported. In 1930 Rabinowitz [9] was able to collect fifty cases. In 1933 Weir and Comfort [10] gathered together 117 cases, the mortality rate being 51 per cent. At the present time we are able to bring the total number of cases of jaundice following the administration of cinchophen or its derivatives to 191.

Snyder and his associates,[11] however, have reported recently the routine treatment of 2,500 cases of chronic arthritis with cinchophen over a ten year period without a single case of liver damage. These authors feel "that the fatal cases of acute yellow atrophy of the liver attributed to cinchophen were either coincidences or in some way were due to lack of control in administration of the drug. Eaton [12] has treated several thousand patients with cinchophen intravenously and has never seen a case of jaundice following its administration. Snyder and his associates hazard the assumption that "if all cinchophen administration were stopped immediately, acute yellow atrophy would still go on in the general population at the same rate." Lehman and Hanzlik [13] also reject most of the clinical evidence on the ground that it "is distinguished by the *post hoc ergo propter hoc* type of reasoning." They conclude further that cinchophen toxicosis lacks an adequate experimental basis, especially as regards injury to the liver. It is necessary for us to take issue with these views, for we believe that there is adequate evidence, both clinical and experimental, of the definite toxic effect of cinchophen on the liver.

In 1913 Biberfeld [14] reported that he had observed the death of one dog from severe degeneration of the liver after the administration of two 5 Gm. doses of atophan with an interval of several days between the doses. Churchill and Van Wagoner [15] in 1931 reported that after the administration of cinchophen to dogs the liver, on microscopic examination, "showed varying degrees of liver necrosis from small areas of coagulation necrosis just beneath the capsule—to complete disappearance of liver cells in small areas." One year later Myers and Goodman [16] found definite evidence of liver damage in both dogs and rabbits following the ingestion of cinchophen. In 1933 Barbour and Fisk [17] examined the livers of dogs that had received the drug and reported "widespread necrosis with little of the normal architecture of the organ preserved" and stated that "the injury produced by each of these drugs (i. e., cinchophen, tolysin and sodium salicylate) was as definite as that caused by such well known liver poisons as phosphorus and chloroform." These workers therefore seem to have obtained definite experimental evidence of the hepatotoxic action of cinchophen and its derivatives.

It is, of course, obvious that the vast majority of patients are able to take cinchophen over long periods of time without apparent injury. The nature of the peculiar hypersusceptibility that results in the occasional case of jaundice and death is obscure. Our purpose in this paper, however, is to review the reported cases in an effort to ascertain, if possible, what relationship exists between dosage and toxicity and whether or not cinchophen can be given safely if given cautiously. The Council on Pharmacy and Chemistry has suggested that "physicians should be educated in the use of this dangerous drug, as in the case of other dangerous drugs." This implies that there is a proper and an improper method of administration. We have reviewed the literature with this one question in mind: Can cinchophen be given safely if given carefully?

It should be recalled that the pharmacopeial dose of cinchophen is 0.5 Gm., or 8 grains. Sollmann [18] states that "the usual dosage . . . is 0.5 to 1.0 Gm. four times per day" and advises that it be "stopped with the first appearance of gastro-intestinal disturbance, skin rashes or jaundice." Short and Bauer [19] consider the usual dosage to be from 1.5 to 3 Gm. a day and state that between 10 and 13 Gm. is necessary for the complete therapeutic effect. Graham [20] advises that the drug be given for four days and then withheld for four days. The dose of neocinchophen, according to Sollmann, is the same as that of cinchophen. Neocinchophen has been considered nontoxic, its limited solubility precluding the possibility of toxicity.

TABLE 2.—*Mortality: Reported Cases of Jaundice Following Administration of Cinchophen or Its Derivatives*

| Method of Administration | Death | Recovery | Total |
|---|---|---|---|
| Oral only | 84 (48%) | 91 (52%) | 175 (100%) |
| Intravenous only | 3 (27.3%) | 8 (32.7%) | 11 (100%) |
| Combined oral and intravenous | 1 (25%) | 3 (75%) | 4 (100%) |
| | 88 (46.8%) | 102 (53.2%) | 190 (100%) |
| Outcome not stated | | | 1 |
| Total | | | 191 |

TABLE 3.—*Primary Diagnosis*

| Diagnosis | Cases | Diagnosis | Cases |
|---|---|---|---|
| Gout | 6 | Sinusitis | 1 |
| Arthritis | 70 | Eczema | 1 |
| "Rheumatism" | 52 | Grip | 5 |
| Sciatica | 8 | Angina pectoris | 1 |
| Neuritis | 7 | Lymphangitis | 1 |
| Cholecystography | 6 | Trauma | 1 |
| Lumbago | 4 | Acute rheumatic fever | 1 |
| Infected tooth | 2 | Pleurisy | 1 |
| Liver damage | 2 | Not stated | 22 |
| Total | | | 191 |

Table 1 summarizes all the published and unpublished reports of cases that we have been able to find to date. A number of points are of interest as one studies this table, especially the variable relationship between total dosage and outcome. Small doses have often caused death, whereas large amounts have frequently not proved fatal. It is significant that discontinuance of the drug with the appearance of vague symptoms of jaundice has not sufficed to prevent a lethal termination in the majority of fatal cases. Another important point, not shown in the table, is the "time factor," to which Sir William Willcox [21] first

9. Rabinowitz, M. A.: Atrophy of the Liver Due to Cinchophen Preparations, J. A. M. A. **95**: 1228 (Oct. 25) 1930.
10. Weir, J. F., and Comfort, M. W.: Toxic Cirrhosis Caused by Cinchophen, Arch. Int. Med. **52**: 685 (Nov.) 1933.
11. Snyder, R. G.; Traeger, C. H.; Zoll, C. A.; LeMoyne C. K., and Lust, F. J.: The Use of Cinchophen in the Treatment of Chronic Arthritis, J. Lab. & Clin. Med. **21**: 541 (Feb.) 1936.
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directed attention—that is, the variable length of time between the use of the drug and the first appearance of symptoms—a delayed effect such as is seen in chloroform poisoning. The initial symptoms have frequently appeared weeks or months after the discontinuance of the drug. Death may not occur until long after the period of cinchophen administration. In many of these patients the destructive processes in the liver appear to be irreversible, for in spite of treatment they progress to death in nearly half of the victims.

Table 2 gives a comparison of the mortality rate with the different methods of administration in this total group of 191 cases. It is noteworthy that the death rate from the oral administration was about 48 per cent, from the intravenous method 27 per cent, and from the combined oral and intravenous administration 25 per cent. This might be considered to suggest that the intravenous method is safer than the oral. We are inclined to attribute the difference, however, to the small number of cases in the intravenous group and to a small total dose of cinchophen. The total number of cases, 191, with eighty-eight known deaths and a mortality rate of 46.8 per cent, is significant. Many authors have suggested that the actual incidence of cinchophen poisoning is much greater than the reported cases would indicate. We are in accord with this view.[22]

The accompanying chart shows the age distribution of the reported cases by decades. It may be noted that the peak occurs between the ages of 40 and 70. It is noteworthy, however, that two cases occurred in the second decade and sixteen in the third. It seems probable, therefore, that susceptibility is not a matter of age. The higher incidence after the age of 40 is probably to be attributed to the greater use of cinchophen, for the common types of chronic pain are encountered more frequently during these years.

The sex distribution does not seem to be important. There were 110 females (60.4 per cent) and seventy-two (39.6 per cent) males in the 182 cases in which the age was stated.

TABLE 4.—*Chronic Dosage—Late Effects*

| Case No. (Author) | Drug | Dosage | Result | Liver at Autopsy |
|---|---|---|---|---|
| 34 (Lowenthal Mackay, Lowe) | Atophan | 1.5 Gm. daily for 6 mos. | Death 3 wks. after onset of symptoms | Acute toxic necrosis (538 Gm.) |
| 35 (Lowenthal Mackay, Lowe) | Atophan | 0.5 Gm. t. i. d. 3 days per week for 8 wks.* | Death; stopped cinchophen 2 wks. before onset of jaundice, 5 wks. before death | Acute toxic necrosis (744 Gm.) |
| 45 (Reichle) | Cinchophen | 205 Gm. in 1926<br>137 Gm. in 1927<br>117 Gm. in 1928 | Death after jaundice of only 10-12 days' duration | Acute toxic necrosis (757 Gm.) |
| 168 (Bloch, Rosenberg) | Neocinchophen | 0.5 Gm. t. i. d. for 3 wks. | Death 9½ mos. after drug had been stopped | Toxic cirrhosis (1,000 Gm.) |
| 169 (Bloch, Rosenberg) | Farastan | 0.5-1.0 Gm. t. i. d. at intervals for 18 mos. | Death; did not take drug within 5 mos. of death | Toxic cirrhosis (1,250 Gm.); gastric ulcer |

* Drug prescribed in manner suggested by Graham; i. e., not over four days in succession, with an interval of four days.

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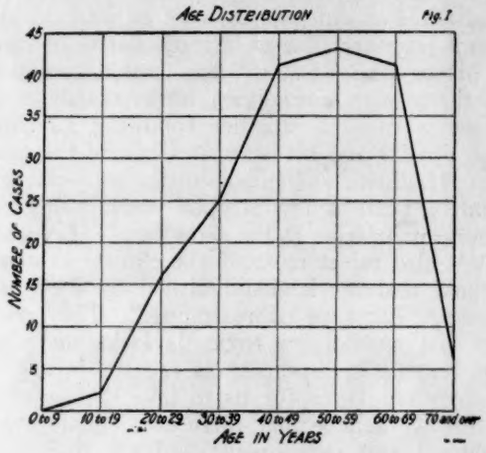
It will be seen from table 3 that cases occurred following cinchophen administration in a great variety of conditions, practically all of them painful and including six cases of gout.

Table 4 illustrates the late or delayed manifestations of liver damage following continued cinchophen administration. In the first case a standard dose of the drug was taken daily for six months. No symptoms appeared until three weeks before death. In the second case the same dosage was taken for eight weeks.




Age distribution.

Two weeks after the administration of cinchophen, jaundice appeared, followed in five weeks by death. The third case is of particular interest, for this patient had used cinchophen in large doses for three years without apparent ill effects until suddenly jaundice appeared, and death resulted in ten or twelve days. The fourth case is significant because a very small amount of neocinchophen was taken for only three weeks, and because an interval of nine and a half months elapsed before death occurred. In the fifth case the dosage was moderate, and death did not occur until five months after the drug had been discontinued. It is noteworthy that the procedure followed in the third case was that recommended by Graham; i. e., three or four days of drug administration followed by a four day rest period. Graham was trying to find a "safe" method of administration.

These five cases are of great interest in connection with the method of action of cinchophen, for they indicate that the necrosis of the liver is not an allergic manifestation but rather an abnormal susceptibility. From the standpoint of dosage, method and carefulness of administration, however, the significant facts are, first, that three of these patients were able to take the drug for long periods of time without symptoms; second, that fulminating acute yellow atrophy did eventuate, and, third, that in two of the cases an interval of several months elapsed between discontinuance of the drug and death.

In table 5 the effect of neocinchophen is shown. It has been thought by many that neocinchophen, because of its lessened solubility, is not toxic. These seven patients, however, are reported to have taken neocinchophen only, and yet five of them died—a mortality rate of 71.4 per cent. Tolysin and novatophan are trade names for neocinchophen. The fourth, sixth and seventh cases are of particular interest because of the small doses that proved fatal.

Table 6 illustrates the disastrous results that may follow the ingestion of very small doses for brief periods. In the first case the patient took only 15 grains (1 Gm.) a day for one week. No symptoms appeared until three weeks later, and death occurred a month later. In the third case 30 grains (2 Gm.) was taken daily for two days only; the first symptoms appeared fifteen weeks later, and death resulted after three or four more weeks. In the fourth case 15 grains was given daily for fifteen days while the patient was in the hospital; there were no symptoms until two weeks later at home; death occurred twenty-two days later. The fifth case is especially significant. Seven and a half grains (0.5 Gm.) of cinchophen was given each night for five nights. The patient was instructed by her physician to stop the drug if any gastro-intestinal disturbance developed. She did so five days later when she reported to her physician with slight jaundice, but the necrosis of the liver steadily progressed to death thirty-one days later.

These five cases, to our minds, proved conclusively that even the smallest doses of cinchophen given for very brief periods may prove fatal. They also show clearly the futility of relying on close observation and withdrawal of the drug with the first appearance of symptoms. It is then usually too late, for the disease marches steadily forward.

It is apparent that cinchophen is not a drug like digitalis or ergot or emetine, which is toxic only in large doses and which, when used in small doses, gives adequate warning of toxicity. It is, on the contrary, a drug that may be fatally toxic even in very small doses. The necrotic changes in the liver may progress to death even when the first symptoms do not appear until several weeks or months after the administration of cinchophen. The very earliest symptoms may be only a signal, already too late, that the steady march of death has begun.

TABLE 5.—*Neocinchophen Only*

| Case No. (Author) | Drug | Dosage | Outcome | Liver at Autopsy |
|---|---|---|---|---|
| 66 (Ross) | Tolysin | Unknown dose intermittently for 2 mos. | Death | Acute toxic necrosis |
| 69 (Ross) | Tolysin | Irregularly for 2-3 wks. probably not over 8 Gm. in all | Recovery | |
| 95 (MacGregor) | Neocinchophen | 0.3 Gm. t. i. d., Rx refilled several times | Death | No necropsy |
| 106 (Davis) | Tolysin | 0.65 Gm. 4 times daily for 19 days | Death | No necropsy |
| 165 (Bloch and Rosenberg) | Novatophan | 17.5 Gm. in 1 mo. | Recovery | |
| 167 (Bloch and Rosenberg) | Novatophan | 7.7 Gm. in 3 mos. occasionally 0.15 Gm. thereafter | Death | Subacute toxic cirrhosis |
| 168 (Bloch and Rosenberg) | Neocinchophen | 0.5 Gm. t. i. d. for 3 wks.; total (31.5 Gm.) | Death | Toxic cirrhosis |

7 cases—mortality 71.4 per cent

## SUMMARY AND CONCLUSION

In the past decade there have been described 191 cases of jaundice following the administration of cinchophen or its derivatives, including neocinchophen. Of these, eighty-eight ended fatally, a mortality rate of 46.3 per cent. The actual incidence of this sequence is undoubtedly much higher than the published reports would indicate. Instances have been cited in which the long continued use of cinchophen has been without apparent harm until the sudden appearance of jaundice followed by dramatic death. In some cases the administration of very small doses of the drug under careful observation with immediate withdrawal on the first evidence of toxicity has nevertheless proved fatal. It is therefore concluded that there is no safe method for the administration of cinchophen.

TABLE 6.—*Small Doses—Acute Effects*

| Case No. (Author) | Drug | Dosage | Result | Liver at Autopsy |
|---|---|---|---|---|
| 64 (Walker) | Cinchophen | 6.4 Gm. in 1 wk. | First symptoms appeared 5 wks. after stopping drug; death occurred 11 days later | Acute toxic necrosis (850 Gm.) |
| 73 (Willcox) | Atophan | 0.3 Gm. t. i. d. for 6 days; July 10 to 16 | First symptoms Aug. 8; died Sept. 5 | Not mentioned "typical symptoms of acute necrosis of liver" |
| 97 (Rhea) | Cinchophen | 2.0 Gm. daily for 2 days | First symptoms appeared 15 wks. after ingestion of drug; died 3-4 wks. later | Acute toxic necrosis (978 Gm.); gastric ulcer |
| 109 (Winfield) | Cinchophen | 1.0 Gm. daily for 15 days while in hospital | First symptoms appeared 2 wks. later at home; death resulted in 22 days | Refused |
| 162 (Fraser) | Cinchophen | 0.5 Gm. q. noc for 5 days; advised to stop if gastro-intestinal disturbance developed | Reported to physician 5 days later with slight jaundice; cinchophen stopped; death followed in 31 days | Acute toxic necrosis (1,080 Gm.) |

## ABSTRACT OF DISCUSSION

DR. MANDRED W. COMFORT, Rochester, Minn.: The authors' answer to their question "Is there a safe method of administering cinchophen?" is irrefutable. There is no safe method of administering cinchophen. Regardless of the precautions taken, occasional instances of cinchophen poisoning will occur. I do not believe that the reported cases of toxic cirrhosis following the use of cinchophen include anywhere near all the instances of poisoning. There are undoubtedly hundreds of unreported cases throughout the world. Fifteen cases encountered at the clinic since 1933 are unrecorded as yet. The morbidity and mortality following the use of cinchophen must be reduced to a minimum. This can best be accomplished by (1) governmental limitation, so that it is dispensed and administered only on prescription of physicians, and (2) by members of the medical profession limiting the indications for its use. The danger of cinchophen poisoning is so real that we believe at the clinic that the drug should not be used when there is an effective substitute; but since there is no effective substitute in the treatment of gout, we concur in the belief of our colleague Dr. Hench that its intermittent use is justifiable "in cases of gout not only during the attacks of gouty arthritis but in the intervals thereafter in order to prevent the next attack and to ward off, if possible, the much more important residual and potentially fatal lesions in the cardiovascular system." We do not use it in any other disease. Until these steps are taken, mortality and morbidity can be reduced, it seems to me, in at least three ways: 1. Use of the drug should be discontinued when the first manifestation of toxicity appears. In five, or 15 per cent, of the cases which we encountered, use of the drug was continued for from one to two weeks after toxic symptoms had appeared or the drug had been repeatedly taken again and again after repeated warnings. One of these patients died. I agree with the authors that poisoning will occur in spite of this precaution. 2. The danger of taking further cinchophen

should be impressed on the patient who has recovered from cinchophen poisoning. Two of our patients took more cinchophen after being warned, and they died. 3. Surgical procedures should be avoided. Of the sixty-one fatal cases reviewed by Weir and me, in eight, or 13 per cent, the patients died following surgical procedures. Operative procedures on patients who have toxic cirrhosis attributable to cinchophen are almost always fatal. A review of such cases leaves little doubt that the lives of these persons could have been saved, or their illness prevented, had these precautions been taken.

DR. D. R. CLIMENKO, Cold Spring Harbor, N. Y.: I do not believe that the phenylcinchoninic acid derivatives are hepatotoxic substances in the ordinary meaning of the term. When one speaks of a hepatotoxic substance, such as chloroform or phosphorus, one means a substance that will always produce a certain type of tissue damage, and that the damage which will be produced will be proportional to the amount of the noxious substance that has been administered. This is obviously not true in the case of cinchophen, as the authors themselves have pointed out. Acute yellow atrophy has occurred after the administration of extremely small quantities of the drug; on the other hand, Dr. Hench has described at least two cases in which individuals have taken as much as 50 pounds of the drug over a period of years without any definite deleterious action. In my own animal experimental work I have only been able to corroborate Hanzlik's results. In a series of animals that has now extended to over 200 rabbits and forty dogs, oral administration of either cinchophen or neocinchophen, in doses up to and including 1,200 mg. per kilogram (that is, a dose of 1,200 grains, or 78 Gm., for the average sized adult) has shown no hepatotoxic action. My second point has to do with the frequency of toxicity from cinchophen in man. There is no reasonable doubt in my mind that cases of acute yellow atrophy have occurred in man as a result of the administration of cinchophen. I feel equally certain that a large number of the cases so described in the literature have other etiologic agents present that might equally well be responsible for the terminal condition. For example, I should like to describe more fully the case the authors quoted, the case described by Reah in the *Lancet*, Sept. 3, 1932, of a man who died fifteen weeks after the administration of 4 Gm. of cinchophen. Fifteen weeks after the administration the man was admitted to the hospital suffering from acute abdominal distress and jaundice. Sixteen days after the onset of acute symptoms he died. Postmortem examination showed the presence of a peptic ulcer, endarteritis and toxic cirrhosis. The clinical history described him as a chronic alcoholic. Nor is this an isolated case, for I have collected some twenty similar ones. One of the best is a case described by Dr. Rake of London. A man was admitted to the hospital with jaundice and an acute abdominal condition. Laparotomy was performed under chloroform anesthesia. The man died three days later. Postmortem examination showed a chronic cirrhotic liver on which was superimposed an acute degenerative process. The clinical history describes the patient as a chronic alcoholic. Yet the death is described as one of cinchophen poisoning.

DR. R. GARFIELD SNYDER, New York: The authors have tried to prove that there is no safe method of administering cinchophen but they have provided only circumstantial evidence to substantiate their claims. The fact that acute yellow atrophy occurred in a few isolated cases in which cinchophen had been administered prior to the onset of jaundice does not in any way prove that death in these cases was due to the use of cinchophen. It may merely have been a coincidence, as the number of cases of acute yellow atrophy reported from unknown causes far exceeds the number of cases reported as being due to the use of cinchophen. It is therefore obvious that on the clinical evidence alone it is not justifiable to state that cinchophen has ever caused acute yellow atrophy. It is true that cinchophen salts can be recovered from the liver in cases in which death occurred from acute yellow atrophy. The finding of cinchophen derivatives in the liver, however, does not necessarily prove that they caused liver damage, because cinchophen is normally excreted through the liver. From a pathologic standpoint the gross and microscopic appearance of the liver in cases supposedly due to cinchophen poisoning does not in any way differ from the gross and microscopic appearance of the liver in cases in which acute yellow atrophy developed from unknown causes. In regard to experimental evidence, most authors cite the work of Barbour and Fisk (*J. Pharmacol. & Exper. Therap.* **48**:341 [July] 1933) as proving the toxicity of cinchophen for the liver cell. As a matter of fact, subsequent to Hanzlik's questioning of this work, Barbour and Gilman (*J. Pharmacol. & Exper. Therap.* **55**:400 [Dec.] 1935) tried to duplicate their results and absolutely failed. There is at present no technic known for the production of acute yellow atrophy in animals by cinchophen. From a clinical point of view my associates and I have been using cinchophen for a period of ten years in our private practices and in the clinic of the Hospital for Ruptured and Crippled and Roosevelt Hospital without ever having a fatal result. In all my experience I have seen only one slight case of jaundice, which lasted two weeks. It cleared up completely and did not in any way interfere with the patient's general health or the successful treatment of the case.

DR. CHAUNCEY D. LEAKE, San Francisco: Practical ideas on the toxicity of the cinchophens are necessarily inferior when derived experimentally from animals, no matter how carefully controlled, in comparison with similar notions obtained from its clinical use in man. The reason is a statistical one, since relatively few animals can be employed, whereas hundreds of thousands of human beings take the drugs. Physicians are concerned with avoiding an untoward reaction in any single patient. An excellent survey of the chances of obtaining an unfavorable reaction to a drug in a large series of individuals has been made by A. J. Clark (Tr. Med.-Chir. Soc. Edinburgh, in *Edinburgh M. J.*, January 1935). In using any drug a physician must balance the hazard of its use against the disease hazard in his patient. There is always some therapeutic hazard. The wise physician will strive to keep this at a minimum. In regard to the cinchophens, clinical evidence indicates that neocinchophen is less hazardous to use than cinchophen.

DR. WALTER L. PALMER, Chicago: I wish to second what the chairman has said with regard to the commercial interest involved. It is enormous. It comes, if I am correct, from one source.

DR. LEAKE: We all happen to know that source; unfortunately, it is not to the credit of the company.

DR. PALMER: I was interested in what Dr. Comfort said with regard to the rôle of surgical procedures. We have noted such a relationship in one or two of our own cases and it is described frequently in the literature. Apparently the anesthetic, even an ether anesthesia, adds enough additional damage to the liver to initiate the appearance of symptoms or at least make them worse. With regard to gout, I find myself again at odds with some of my colleagues. I do not treat very much gout, but my associates in Chicago who treat some very bad cases tell me they are able to handle these patients satisfactorily over a period of years without cinchophen. With regard to the question raised by Dr. Climenko about the relation between dosage and toxicity, I admit readily that there is not that definite relationship one likes to see between cause and effect, but this I believe is explained by assuming a hypersusceptibility the cause and nature of which are entirely obscure. I would like to tell of an experiment of Dr. Sutton's. Dr. Sutton gave a patient cinchophen for one week and jaundice appeared. Several weeks later the patient asked for cinchophen and he was given 1 grain (0.065 Gm.) daily for three days. Nothing happened and so the dose was increased to 2 grains (0.13 Gm.) daily for two days, a total of 7 grains (0.46 Gm.) in five days. Jaundice appeared; the patient became acutely ill but eventually recovered. To my mind this observation possesses the qualities of the crucial laboratory experiment. With regard to the question Dr. Snyder raised as to whether or not these cases of acute yellow atrophy may be due to unknown causes or to the cinchophen, I feel that cinchophen in these instances is the unknown cause. We know that acute toxic necrosis of the liver is a toxic process. The microscopic picture is the same in the poisoning of the liver from chloroform, phosphorus, trinitrotoluene and numerous other substances. Wilcox in England wrote an excellent article on this subject in which he listed a large number of hepatotoxic compounds. I feel that cinchophen is very definitely one of these drugs.

# VOLUNTARY FOOD HABITS OF NORMAL CHILDREN

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OAKLAND, CALIF.

During the past fifteen or more years I have been urging parents in my office and in public addresses to allow their children full choice of both kinds and amounts of food from the family table. When this advice has been followed from infancy no food difficulties have arisen; but when other tactics have been followed and reeducation of both parents and child must be undertaken a period of observation and detailed report is valuable and usually necessary.

This discussion will differ from others on the subject with which I am acquainted because it is based entirely on experience gained in private practice with children living in the home with their parents, while other writers have recorded the behavior of children in institutional groups.[1] Also the foods offered after infancy have been those that appear usually on the average well stocked family table without restriction as to mixtures or the free use of sugar, such as Davis used in her earlier classic studies.[2] I have emphasized the child's complete freedom of choice more strongly than Aldrich[3] has in his delightful and thoroughly sound book on cultivating the child's appetite. A period, usually three weeks, during which, while free from all restraint, the child's behavior is carefully recorded and reported, has been found to be an excellent means of winning the cooperation of parents and of gaining accurate information concerning the food habits of the entire family. This method of study I have not seen reported. Finally, I believe that the practices and methods which the physician finds useful in his daily contact with patients should be more frequently presented in professional meetings and periodicals in order that they may, when sound, become more generally used and, subjected to criticism and modification, grow inevitably toward perfection, which is the ideal of medicine.

My daily experience indicates that a great number of mothers are still "getting food into their children."[4] Too many colleagues are advising them that certain foods must be taken regularly or are paying so little attention to this aspect of child training that the mother is left adrift to follow her own devices, modified by the constant bombardment of sales propaganda for milk, cereals, vegetables and less worthy foods to which she is subjected. During the past ten years I cannot recall a resident or intern in the Children's Hospital who, in response to my question "What will you tell the mother when she tells you her child will not eat?" has not answered "I don't know, but I suppose I'd tell her to make him eat the food he should have." Evidently in their minds food was to be prescribed and given as were drugs, baths and enemas.

In all fairness, I must hasten to add that I am certain that the medical profession is not altogether to blame for the conduct of parents concerning the food intake of their children. The desire to feed some one is an inseparable part of the maternal instinct, and the belief (the stock in trade of quacks) that there is some method of feeding which, if followed closely, will prevent many if not all the ills of human beings dies hard. When I advised the mother of a boy of 6 years not to urge or coax him to eat she said "Oh yes, our doctor has cared for him since he was born and he has always told me that, and I've read Dr. Aldrich's book on 'Cultivating the Child's Appetite' which has helped me a great deal, but we still coax him to eat." That evening his father had staged a race with him in order to get him to gulp down his dinner, all to no avail because he had vomited it at midnight in the course of an acute infection.

Most mothers whom I see, except those who have been carefully trained to do otherwise, worry because their children do not eat satisfactorily. Rarely is the answer to my question "has he a good appetite" an unconditional "yes." Usually the reply is "No, it is very poor," or "I can't get him to eat vegetables," or "He doesn't like meat," or "I just can't get milk down him" or "He eats an egg only when I force him." At best a favorable reply is modified by "Fairly good except vegetables" or "I guess it is all right, but he doesn't eat enough to satisfy me." And I am certain that modern mothers still pray "Oh! dear Lord, I beseech Thee. Wilt Thou not make my children fat and me thin?"

When questioned concerning the methods used to get a meal down which satisfies parental anxiety, the reply indicates coaxing or entertainment to take his mind off his food, so that eating may become largely passive, the application of sporadic and ineffectual force interspersed with prolonged and oft repeated lectures on the great values of certain foods, especially vegetables. (I am quite certain that the average California child can't easily spell vegetable because the letters f-i-g-h-t come up out of his subconscious mind to confuse him.)

Usually the offensive is carried on alternately by one parent or the other, while the one whose turn it is to rest silently or openly sides with the culprit. When the child happens to be hungry or the food especially suits his taste and he eats a big meal, the parents fairly flap their wings and crow "good child, you have eaten your dinner," and then the child fully realizes how valuable his mealtime behavior is as a weapon.

Here is the soil that will nourish any and every sort of behavior problem to thrive in an atmosphere of faulty family relationships.[5] In the face of such a situation we might well pause and ask ourselves, for what are we profited if we shall bring up a perfectly nourished generation, handicapped from its earliest days in the development of those qualities of the spirit which alone make life beautiful?

Fortunately this is not an unsolvable problem, since every healthy child will eat an adequate diet[6] if it is provided for him and if his food education is carried on along reasonably sound pedagogic lines.

Read before the Section on Pediatrics at the Eighty-Seventh Annual Session of the American Medical Association, Kansas City, Mo., May 15, 1936.

1. (*a*) Davis, Clara M.: A Practical Application of Some Lessons of the Self Selection of Diet Study to the Feeding of Children in Hospitals, Am. J. Dis. Child. **46**: 743-750 (Oct.) 1933. (*b*) Koehne, Martha, and Morrell, Elsie: Food Requirement of Girls from Six to Thirteen Years of Age, ibid. **47**: 548-558 (March) 1934. (*c*) Tisdall, F. F.: Inadequacy of Present Dietary Standards, Tr. Sec. Pediat., A. M. A. 1935, pages 95-108.

2. Davis, Clara, M.: (*a*) Self Selection of Diet of Newly Weaned Infants, Am. J. Dis. Child. **36**: 651-679 (Oct.) 1928; (*b*) What Infants on the Self-Selected Diet Experiment Eat, Tr. Sec. Dis. Child., A. M. A., 1930, p. 137-146.

3. Aldrich, C. A.: Cultivating the Child's Appetite, New York, The Macmillan Company, 1928.

4. Sweet, Clifford: My Child Won't Eat, Arch. Pediat. **47**: 582 (Sept.) 1930.

5. Davis, Clara M.: What Infants on the Self-Selected Diet Experiment Eat, Tr. Sec. Dis. Child., A. M. A., 1930, pp. 137-146.

6. An ample diet for the purpose of this discussion is that generally accepted as such, consisting of milk, from 16 to 24 ounces, in addition to that contained in other foods; one or more eggs; meat, one or two helpings; a vegetable, cooked or raw at least once daily; fruit, raw and cooked once or twice daily; cereal, as bread and cereal with butter; cheese; jam and other incidentals, and fish oil in some form as prescribed.

The young mother must be taught that the formula prescribed for her infant is made sufficient to allow him all the food he wants and that it should be offered at prescribed intervals. When additional foods are prescribed they should be given in small amounts, and if they are resisted a taste for them should be taught gradually. Human nature has always yielded more readily to seduction than to violence.

Few mothers realize that the components of a balanced diet need not all be eaten every day. They must be assured that a commonly taken and necessary food should be omitted without opposition for days whenever the child tires of it; the child's body has abundant stored up supplies to draw on during the holiday, and when he needs the food he will take it gladly.

E. J., a girl, aged 11 months, was brought to me because she was refusing milk, although she was taking vegetables, cereals, orange juice, cod liver oil and eggs readily. The mother was instructed to omit all milk until the baby showed signs of wanting it. After she had frantically telephoned me many times to report that the baby still didn't show signs of wanting milk, I asked her to place a bottle where the child could see it and await results. Finally, on the eleventh day the child nearly scrambled off a table in an attempt to reach the bottle. Earlier in practice I would have offered that baby every known concoction of milk and would have failed in the end.

Children who are allowed to omit a food at will do not develop a lasting dislike for it as they do when it is forced on them against their will. When mothers are taught to substitute "he has not yet learned" for "won't," there will seldom be lasting difficulty in cultivating a taste for new foods. Many persons do not like such delectable foods as celery, grapefruit and olives when they first taste them, and might I mention tea, coffee, tobacco and beer?

Intervals between meals should be varied to fit the needs of the individual. Some very young infants who do not eat well and whose food doesn't agree with them will thrive on a five hour schedule.

M. B., a very unhappy infant of 4 months, who cried night and day, spat up continuously and was troubled with an allergic dermatitis, became a happy infant with a clear skin who gained 9 ounces (256 Gm.) the first week after she was on a five hour schedule.

Often after a few days on a five hour schedule the infant will voluntarily return to the four hour interval and should be allowed to do so. Regularity will enable the mother to give her child better care, but she must not become the servant of regularity.

H. M. at the age of 7 years was brought in by his mother in despair because she could not get him to eat. When I asked her to let him choose his own diet she was loath to do it and was certain that I should either give him a tonic or give her some new way to whip him into line. I finally won her cooperation by asking her to follow my advice for three weeks, keeping a careful record of his food intake, unknown to him. He began at once to take an ample diet but omitted the midday meal. He is now 15 years of age, an unusually large muscular athletic boy who still eats morning and evening only. Incidentally, when I reviewed his record as an infant I found that he omitted his night feedings very early and took only three meals a day, much earlier than most infants do.

C. A., born July 24, 1935, with a birth weight of 7 pounds 2 ounces (3,233 Gm.), was seen December 3 at the age of 4 months, referred by a colleague in another city with the following note: "Began vomiting at 10 days. At 1 month given two weeks' trial on atropine and thick feeding. Then operated to find a fusiform cartilaginofibrous thickening in the first portion of the duodenum, forming a complete constriction. Course subsequently favorable except dislikes food and vomits daily about one half of food given."

On admission the weight was 13 pounds 4 ounces (6,010 Gm.). The child was brought in because it had lost 9 ounces (256 Gm.) and during the past two weeks was unable to retain food. It was forced to eat, a meal often lasting from one to two hours with the father carrying on after the mother became exhausted. It had been fed every three hours. It had a violent distaste for milk and was put on orange juice, ripe banana, cereal with butter and sugar, and apple sauce. The orange juice was given ad lib and other food at five hour intervals.

December 4 the report states: "Can't get a thing into him except orange juice." The mother was advised not to urge food.

December 10, the weight was 12 pounds 11 ounces (5,756 Gm.), a loss of another 9 ounces in six days, but the mother was encouraged because the child was now taking meals well and cried when food was taken away. It was put on a whole milk mixture with lactose, orange juice, cod liver oil and iron ammonium citrate, 50 per cent solution, 15 drops daily to correct moderate anemia.

December 24 the weight was 13 pounds 8 ounces (6,123 Gm.), a gain of 13 ounces (370 Gm.) in fourteen days. It was taking 7 ounces at a feeding, at times as much as 10 ounces without regurgitation. The bowel movements were too hard to pass easily. Lactose was partially replaced by Vitavose. Vegetables were prescribed to be given twice daily. The baby was taking all food well and was in good condition.

Jan. 7, 1936, the weight was 14 pounds 3 ounces (6,435 Gm.), a gain of 11 ounces (313 Gm.) in fourteen days. The baby was eating well. A mild allergic dermatitis had appeared on the face and body. The bowel movements were normal. It was in excellent condition.

February 4 the rash was worse. Evaporated milk was ordered in place of fresh pasteurized milk, and barley flour instead of Pablum.

March 3 the weight was 15 pounds 12 ounces (7,144 Gm.), a gain of 10 ounces (284.5 Gm.) in twenty-eight days. The baby had an acute infection of the upper respiratory tract. It was noted that the rash was made worse by tomato juice. The mother was giving the barley flour uncooked as she had the Pablum. She was instructed to put the baby in a sleeping bag so that she could sleep with both eyes closed at night.

March 30 the weight was 17 pounds (7,711 Gm.) a gain of 18 ounces (510 Gm.) in twenty-seven days. It was sleeping soundly and had taken as much as 13 ounces at a feeding without discomfort or vomiting. It was on a five hour schedule, taking 10 or 12 ounces morning and night. At the other two meals it took vegetables and 5 or 6 ounces of milk mixture. The skin was clear. There were normal bowel movements. The baby was in excellent condition. A happy mother and infant.

Malnutrition has been overemphasized until it has become a menace to the peace of mind of mothers. The slender child with excellent turgor and development for his age is labeled underweight by comparison with standard height, weight and age tables too frequently. Physicians can be of great service by carefully studying such children, reassuring the anxious mother and giving her a written statement that she may use in future discussions of the subject.

Forced feeding has its place in medical practice but when used it should be a therapeutic measure carried out under specific orders to accomplish a definite purpose.

The first step in the solution of any problem is a clear understanding of the problem to be solved. This is especially true of behavior problems, which have in them so many variables of heredity and unknowns of environment. Therefore, if it can be done without harm to the child, he should for a time be allowed to direct his own behavior while the parents become only observers and confidential informants. At the end of the observation period the problem has either disappeared or has lost enough variables and unknowns to fall within the means of fairly simple solution. When the food problems of older children present themselves I ask for a period of three weeks in which the child

may choose his own food as a guest at the family table while I am forwarded a weekly report of his food intake. Usually before the weeks have elapsed the child is eating a varied diet, and I often have difficulty in getting the third week's report because the mother has lost interest in the problem.

At the end of the observation period one has gained a good working knowledge of the foods that make up the family diet, which is otherwise difficult to obtain in private practice. This furnishes a basis for constructive criticism if it is needed and for sound teaching of such fundamental dietetics as:

1. For practical purposes one vegetable is as good as another; that, after all, a carrot is only a root vegetable, while spinach is only one of many leafy ones. That raw vegetables, which many children prefer, may wholly or in part supplant cooked ones with no loss except the energy which the more complete digestion of cooked food makes available, and that this loss has no importance in a diet which contains such energy producing foods as meat, fish, eggs and milk; that vegetables should be cooked in the least possible amount of water and no water discarded;[1e] that having eaten a large vegetable salad, the child need not then eat the vegetables served in the course; or that a mealtime, other than breakfast, or for that matter days spent without a morsel of vegetable passing the lips is not altogether lost if only the child does not come to cry out with those wandering children of old, "my soul abhoreth" vegetable.

2. That meat is a valuable food for which fish is the only complete substitute; while broth has no value except as a vehicle for other foods, and that cheese adds nothing to the diet except milk content.

3. That cereals served in the much advertised form of hot mushes do not gain any values not present in them when served as bread, as crackers or as ready to eat, packaged dry cereal, preferably sufficiently "whole grain" to retain their vitamin B complex. The time honored hot cereal is cooked on top of the stove; bread is at least as thoroughly cooked in the oven, while the dry cereals are generally more thoroughly cooked than either.

4. That not every child needs a quart of milk daily and that he should be given credit for the milk he takes with other food as well as that drunk.

5. That a diet too high in fat not only decreases appetite but prevents digestion, absorption and consequently growth; therefore cream should not be used too freely and cod liver oil should be given in the amounts and forms prescribed by the child's physician.

6. That temporary loss of appetite may mean nothing except that the child is not hungry, while a more prolonged absence usually is the first symptom of illness and the most dependable symptom of the need for a careful physical examination.

7. And especially that the father's duty is only to earn the money to buy food and the mother's to put it in suitable variety and form on the table.

Very frequently, after keeping a written record for a short time, the mother is surprised to find that the child is eating much more than she had thought and is convinced that her child's voluntary intake is sufficient. Also the period of three weeks has been found sufficient for the child to indulge in and recover from any orgies that he may indulge in with his first taste of freedom. For example, during the first few days desserts and other foods high in sugar may be eaten to excess, but the child soon returns to the other foods, often omitting dessert for days at a time.[2a] Any child may at times eat a peculiar meal, often having periodic recurrence of the desire to limit his diet for a meal or two to some particular food. If this does not occur too often or last too long, and my own conviction is that it will do neither, it should pass unnoticed.

D. S., a large well nourished boy who was a very bad eater earlier in his life but now takes a very satisfactory diet, makes a meal on bread and milk about five or six times a year, no matter what other foods may be on the table. At first it was very difficult to persuade his mother to remain calm while he ignored the excellent dinner she had been at much pains to plan and prepare, to eat with evident enjoyment "baby food" as she called it.

Often, though not invariably, the child will voluntarily omit the food to which he is hypersensitive. With this omission anorexia, irritability, constipation or manifest allergic signs and symptoms may quickly disappear. The withdrawal of foods to which the child is hypersensitive often has a magic effect on appetite and disposition. The strict interdiction of all foods from his diet which the child says "I do not like" for a few days or weeks often changes at least the greater number of them to the highly desirable list for which he will then ask. This is a splendid example of negativism of which Aldrich[3] writes. Recently I saw a boy of 8 years who had always resisted milk. Forty-eight hours after milk was removed from his diet he asked "Doctor may I please have some milk on my cereal?"

Also at the end of the observation period whatever faulty food habits the child has are clearly apparent and the parents can then be instructed to carry out definite steps in the process of reeducation. If the child takes too much milk, certain meals, preferably dinner, can be given without milk or the milk may appear only as dessert. However, parents must be warned not to hold any food up as a bribe. The child who is said not to like meat seldom dislikes it but has not learned to chew it sufficiently to swallow it, so after accumulating a ball of several partially chewed pieces removes them from his mouth. Within a few days he can be taught to eat meat if it is given to him in single small pieces and no more is given until the first has been chewed and swallowed.

I am certain that no normal healthy child can long resist the demands of his body for food when there is added to it the example of the other members of his family eating the food that appears on the table or omitting it without remark in an atmosphere of comradeship and enjoyment. He soon learns that the tastes of one member of the family cannot be too constantly consulted in planning meals and this lesson may form the very foundation stone for the building of a happy and generous personality, resting firmly on the realization that in all mutual human relationships he must give thought to others as well as to himself.

## CONCLUSION

1. Too many parents are still carrying on an ineffectual and harmful struggle with their children in order to "get in" a complete diet.

2. Physicians must not only prescribe diets but carefully instruct parents in methods of carrying out the child's food education.

3. Healthy children, if allowed to do so, will voluntarily choose an adequate diet from a well supplied family table.

242 Moss Avenue.

## ABSTRACT OF DISCUSSION

DR. W. C. C. COLE, Detroit: The physician can rarely find any physical basis for anorexia. It is seldom a matter of dietetics or nutrition. The problem is usually one of conflict between the child and his environment. The failure to eat well is either a protest against too rigid regulation of the child's diet or is a weapon used in keeping the parent under control. Obviously, juggling the diet or the giving of various combinations of vitamins or the administration of so-called tonics can accomplish nothing. A great deal has been learned about the physiology of nutrition, but the psychology of feeding has been largely neglected. It has been learned that certain foods are very desirable in the human diet and that a proper balance is important to a satisfactory state of nutrition, but little has been learned about getting children to take willingly the foods which it is thought they should have. As a result, the benefits that should be derived from improved knowledge have to a considerable degree been offset by an increase in the psychologic problems associated with eating. Perhaps attempts have been made to regulate the child's eating habits too closely. Much consideration is given to the composition of the food, but little attention is paid to its appearance, variety or palatability. Many babies now receive most of their food from cans the contents of which can be identified only by referring to the label. The mother gets the impression from physicians, from magazine articles, from the various government bulletins and particularly from the high pressure advertising of those who sell foods that if she fails to get the specified things into her child as directed he surely will not be well. Individual tastes and peculiarities are seldom taken into consideration and the child is expected to fit into the mold that has been built for him. If he has normal human reactions, he soon objects to such regulation and offers strenuous resistance. The more he resists, the more the mother urges. The child almost invariably wins and the problem of anorexia is well begun. By the end of the second year it has become a fixed habit. It is striking that the problem is seldom seen in large families or the lower social groups, where the mother is too busy or lacking in education to give her child scientific attention. As lowly an animal as the guinea-pig will voluntarily select a balanced diet, if it is available and if he is left to his own discretion. Yet we insist on rigidly regulating what and when our babies eat. It is apparent that if we are to control the problem of chronic anorexia we must respect the child's individuality and approach the question from a sound psychologic point of view. Dr. Sweet is to be highly commended for bringing this vital subject before us and for giving us the benefit of his experience and observation.

DR. J. D. BOYD, Iowa City: Certain groups of children rarely present feeding problems. Noteworthy examples are the inmates of orphanages, and children required to follow a strictly prescribed dietary because of disease. Health surveys of the children in better types of orphanages and of children receiving wisely chosen therapeutic diets show a better level of nutrition than is observed in the average child in the public school. These facts indicate that feeding problems encountered in private practice depend on something other than the child. Most pediatricians will grant that the parents primarily are at fault. I am not convinced that there is any one type of treatment that can be recommended for meeting these problems. We shouldn't direct our attention to the child when it is the parent that is the chief offender. Since the earliest time there have been self-choice diets. That is the type of diet management that has always existed, and with that there have been varying degrees of subnormal nutrition. With the dietary practices that are common among adults and children in this country, a child cannot be expected to choose an adequate diet from the foods that are commonly placed before him. The foods commonly used are inadequate for the best nutrition. The child, in choosing his own diet, can be expected to choose only something poorer than the total of the foods that are offered to him. Before self-choice diets can be recommended as a desirable form of management, our national food habits must be markedly improved. The problem is primarily one of educating parents and children in the physiology of normal nutrition. It is one of giving to the child the initiative in as large a measure as possible, and from the earliest practicable moment. This is in agreement with the plan of self-choice diets. It is one of directing the child's habits through intelligent personal example on the part of the parents. Lastly, the practice should be one of avoiding making the child's habit control an avenue or outlet for the parent's emotional unrest and maladjustment.

DR. CLIFFORD SWEET, Oakland, Calif.: I hoped I might get some good, healthy objections here so I could act as a child does when some one tries to force him to eat—resist. I have gotten no serious disagreement, except that apparently Dr. Boyd is not quite so ready as I am to trust the child to choose his own food. I think that Dr. Boyd and I are not in disagreement, because I mean to take the emphasis off what the child eats and place it on teaching parents to make available to the child what he should eat, and to allow him, especially when he is not hungry, to omit his food at will until he is ready to take it. In more than fifteen years of following this practice, when I have been able to win the mothers to the plan of letting their infants take as much or as little food as they want from the beginning, there has been no difficulty whatever. I have failed to make this plan work many times because I couldn't get the cooperation of the parents. This morning the mother of one of my former patients in Oakland was calling me up to tell me that her baby is still not eating. She said "I try your plan sometimes, but then I go back again." Every time a parent starts to educate the child in one direction and, before she gets very far, weakens and goes back to the old way, the problem is multiplied many times. I wish that pediatricians would try this plan of letting the child eat as he pleases for a while and see what he eats. Then at least the problem will have clarified itself in a short time and they will know whether there is anything to correct, and what they have to do in order to correct it.

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# POSTPRANDIAL INSULIN

## INDIVIDUALIZING TIME OF ADMINISTRATION OF INSULIN

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Recent progress in the treatment of diabetes mellitus has done much to increase the life expectancy and happiness of the patient. It has also increased and complicated the difficulties and responsibilities of the physician, who now, besides watching diet, urines and blood sugars must decide whether or not to give insulin, whether to use the common brands of insulin or a new, more slowly acting insulin, when to give the injections, how much to prescribe and how to prevent and treat reactions. He must guard against undue optimism on his own part and on the part of the patient, who often regards insulin as a diabetic panacea and forgets that diabetic complications are more frequent than before and that hypoglycemic reactions and "sugar spills" are still to be reckoned with. It has been the aim of this study to emphasize certain of these problems in the management of the diabetic patient and to indicate ways of individualizing the patient.

It is now generally recognized that a safe and effective time for the administration of insulin is before meals, since "the maximum effect of an injection of insulin occurs in an hour, in contradistinction to that of the peak effect of food on the blood sugar, which takes place in half that time. Neither statement is absolute; the latter particularly is subject to variation."[1] It is not so well known that in selected cases it may

From the Medical Service of Dr. Benjamin F. Corwin.
Read before the Section on Pharmacology and Therapeutics at the Eighty-Seventh Annual Session of the American Medical Association, Kansas City, Mo., May 15, 1936.

1. Joslin, E. P.: Therapeutic Applications of Insulin, J. A. M. A. 105: 359 (Aug. 3) 1935.

be even safer and more convenient to vary the insulin schedule with relation to food intake. The level of blood dextrose is subject to diurnal fluctuations quite independent of the ingestion of food, and it is important that maximum insulin action coincide with the more elevated levels. Jacob Möllerström,[2] following the work of Forsgren, has emphasized the rhythmic nature of glycogen metabolism in the liver and has pleaded for the administration of insulin with due regard for endogenous rhythm as well as for meal hours. That this would be the ideal method of treating the diabetic patient cannot be denied, but it is expensive and in many cases an unpractical method for large hospitals and private practices, since it requires numerous blood analyses and prolonged observation of the patient in a carefully controlled environment.

### FRACTIONAL URINES

To facilitate the study of a diabetic patient, it is wise to examine the urine several times a day. This method of evaluation of diabetic status is in use in diabetic services throughout the country; but, since it has still not been generally adopted by practitioners at large and is an important aid in individualizing the patient, the method used at the Kings County Hospital during this study will be discussed briefly at this point. Each day four specimens are collected, measured and analyzed:

1. All urine passed from bedtime to breakfast.
2. All urine passed from breakfast to lunch.
3. All urine passed from lunch to dinner
4. All urine passed from dinner to bedtime.

More or fewer specimens may be taken to meet certain contingencies or the times of collection may be varied to suit the doctor, but the principle of dividing the daily urine for fractional examination has demonstrated its value and should be more widely used, especially by those who do not have elaborate laboratory facilities. The food intake, especially the available carbohydrate, being known, it is easier to prevent glycosuria than when twenty-four hour or casual urines alone are taken.

At the Kings County Hospital during the study, it was found convenient to divide the diet as prescribed by the physician into three meals containing approximately equal portions of fat, carbohydrate and protein and to adjust only the insulin dosage unless the total daily number of grams of one of the foodstuffs was to be changed. In private practice using fractional methods it is easy to vary both the amount of food and the insulin at frequent intervals, depending on the amount and time of the glycosuria and the convenience of the patient, such as working hours.

### REPORT OF CASE

A patient on a diet of 150 Gm. of carbohydrate and 90 Gm. each of protein and fat (carbohydrate 150, protein 90, fat 90, calories 1,770) received 50 Gm. of carbohydrate and 30 each of protein and fat at each meal. During twenty-four hours, receiving 10 units of insulin before each meal, he passed 1,200 cc. of urine containing 2 per cent dextrose, or a total loss of 24 Gm. a day. Instead of reducing the amount of carbohydrate ingested or increasing the amount of insulin, fractional urines were taken, showing that specimens 2 and 3 contained no dextrose and that all the dextrose was passed between dinner and breakfast. With this lead and by more careful study of the patient's glycosuria after dinner, it was found that by giving finally 5 units before breakfast and 15 units after dinner, there was no longer glycosuria, the total amount of insulin taken and the diet remaining the same.

2. Möllerström, Jacob: Periodicity of Carbohydrate Metabolism and Rhythmic Functioning of the Liver, Arch. Int. Med. **52**: 649 (Nov.) 1933.

### CLINICAL INVESTIGATION OF POSTPRANDIAL INSULIN

In an effort to learn whether reactions would occur more often with the routine administration of insulin after meals than with the conventional schedule, the patients of the female diabetic inpatient department of the Kings County Hospital were given insulin immediately after meals every other day. On alternate days the patients were given insulin as usual before eating and the number of reactions (insulin shocks severe enough to be recognized by patient or nurse) was carefully noted. A note was also made of the number of "spills," that is, the presence of dextrose in one of the fractional urines. The diet and insulin dosage were kept constant in each case. There were 1,052 insulin injections in the first (postprandial) series, and 1,055 in the second. There were eleven reactions (1.05 per cent) in the first series and ten (0.95 per cent) in the second. There were twenty-two "spills" in the first series and twenty in the second. As can readily be seen, there was almost no difference in the number of reactions and in the number of "spills" in these unselected series, nor were there any complaints from the patients.

*Reactions and "Spills"*

| | Number of Injections | Percentage of Reactions | Percentage of "Spills" |
|---|---|---|---|
| After meals | 1,052 | 1.05 | 2.1 |
| Before meals | 1,055 | 0.95 | 1.9 |

It is essential not to misunderstand the purpose of this experiment. The results are not quoted to support a program of routine postprandial insulin. This would obviously be as wrong as any other inflexible schedule and probably less justifiable physiologically than the method now in common use. The experiment does however show that postprandial insulin administration is safe and feasible and should be considered in cases which present difficulties in diabetic management. As many observers have demonstrated, it is sometimes necessary to give insulin at unusual hours, before, after and between meals, and even late at night. It has even been found desirable occasionally to have one dose given as late as between midnight and breakfast.

There are definite indications for considering a change in insulin schedule for the diabetic patient:

1. Any patient who cannot be kept free from shocks on his present regimen should be carefully studied from the point of view of his insulin timing.

2. Patients with gastro-intestinal upsets will often require insulin after meals. Tuberculous or postoperative patients, for example, who are vomiting may be kept free from shocks if the dosage of insulin is regulated according to the amount of food the patient has actually ingested and kept down rather than according to a theoretical diet which he may refuse to eat or may be lost by emesis.

If the present trend toward allowing diabetic patients greater freedom in their diets continues, radical changes in hospital routines may ensue. This is especially true if it is followed to the extremes (still foreign to American ideas) suggested by Adolf Lichtenstein[3] of Stockholm, who, following the lead of Stolte of Breslau, permits diabetic children to eat what they wish as long as there is satisfactory weight gain and no

3. Lichtenstein, Adolf: Nord. med. tidskr. **35**: 1329 (Aug. 31) 1935. See comments in Lancet **2**: 1068 (Nov. 9) 1935.

acidosis. Here it may be wise to give insulin after seeing what the patient has actually eaten, not according to what he may eat.

Under certain circumstances an intelligent diabetic patient may elect to postpone his usual dose of insulin. Such a situation sometimes arises when he may have to eat away from home, for example at a public function, where he cannot predict or change the menu. In such a case many diabetic patients can quickly estimate the amount of insulin which they need and take it after the meal.

Situations sometimes arise in which the conventional insulin schedule has had unpredictable disastrous results. This was rather dramatically shown in an experience of Dr. Greene's,[4] in which a patient, after administering 25 units of insulin, found that she missed one of the ingredients of the meal. She went to her grocery shop and on the way engaged in conversation with a neighbor, delaying long enough to go into severe shock and coma. I have also seen an epidemic of shock in a hospital ward when the elevator bringing the food broke down. These examples are not given so much to condemn giving insulin before meals as to illustrate that when it is given in this way the cooperation of an intelligent patient or staff is necessary.[5]

## CONCLUSIONS

1. It is urged that the insulin schedule be carefully studied in order to individualize the patient. This will necessitate giving insulin usually before but sometimes after meals or at odd times.

2. With the use of newer, more slowly acting, insulins, either alone or in combination with a rapidly acting insulin, the necessity for close study of the time of insulin administration will be increased.

3. Insulin should be given with regard to the actual food intake of the patient rather than in relation to a theoretical diet. This is especially true with relation to tuberculous or postoperative patients, children, or those with capricious appetites or vomiting.

4. Fractional examination of the urine is more desirable in the study of the diabetic patient than twenty-four hour specimens.

5. In a large series of injections it was found that the number of shocks and the incidence of glycosuria was approximately the same whether insulin was given before or after meals.

555 Ocean Avenue.

## ABSTRACT OF DISCUSSION

DR. RALPH H. MAJOR, Kansas City, Mo.: When those of us who are interested in insulin first began to treat patients with this new and powerful therapeutic method we followed a routine of giving the patient his insulin half an hour before meals and wondered at first why some patients got along so well and others did so badly. Further observations showed clearly that in many instances there was an apparently more rapid absorption of insulin than in others. Up to the present time there has been no way of estimating the rapidity of this absorption except by studying the individual patients and examining either the urine in separate specimens or by making repeated blood sugar examinations. I have found the repeated blood sugar examinations preferable, but there are serious objections to carrying them out in outside practice. I wholeheartedly subscribe to the idea emphasized by Dr. Plotz that the estimation of the urine along with the gain in weight and general condition is by far the most important laboratory procedure. I have been much interested in several patients I have seen recently who showed very high blood sugars following their meals and an hour later went into insulin shock. These patients had been getting insulin in the customary fashion, a dose half an hour before meals; but careful study of their blood sugar showed that they apparently had a very slow absorption of insulin, the peak not coming before two and one-half or three or on some occasions four hours, with the result that the patient's blood sugar went up quite high following the meal. He spilled over sugar and then the insulin began to get in its effect and he had a shock a short time after showing a large amount of sugar in the urine. These patients are perhaps a great deal more common than ordinarily supposed. Many of the difficulties mentioned by Dr. Plotz may be obviated by the introduction of insulin protaminate, which he has mentioned. My experience with this form of insulin has been limited, but I am certain from that limited experience that patients react differently to insulin protaminate, just as they react differently to ordinary insulin. The divergence is not nearly so great, but at the same time it will be necessary to individualize the slow acting insulin the same as we do with the insulin we are employing today.

DR. RUSSELL M. WILDER, Rochester, Minn.: An effective way of handling many patients is to give a dose of insulin without food late in the evening. Some very severe cases can be handled with two injections in this manner, one dose before breakfast and the second dose at 8 or 9 o'clock in the evening. It is not true, as at first was taught, that every dose of insulin must immediately be buffered by food. That depends on the height of the blood sugar level and the time of day at which the insulin is given; and if a patient misses a dose or forgets to take a dose of insulin before a meal, there is no objection, and indeed it is highly important, that he should take the dose immediately after the meal. Mild cases of diabetes and moderate cases never have been very difficult to manage, but all of us have had experience with so-called brittle cases with high blood sugars at one time and reaction to insulin, with a rapid falling of blood sugar and the development of symptoms of insulin shock at other times of the day. It is not unlikely that the insulin of eight or ten years ago was slower in its action than the highly purified water soluble insulin with which the manufacturers recently have been supplying us. We saw fewer cases of this brittle type before than we do now. The insulin as it is supplied to us at the present time is as pure as granulated sugar. It is rapidly absorbed and its effect thus is more explosive. The insulin of a few years ago possibly contained zinc, perhaps other metals, as contaminants, and these metals delayed its action. This perhaps is the explanation of why we are having so much more trouble now than we used to have. Dr. Plotz mentioned insulin protaminate and other longer acting insulins that recently have been introduced. I hope that those who haven't been able to see them may come to the diabetes exhibit and study some of the charts that are there of patients who have received insulin protaminate. We have been experimenting with different types of diets and different types of administration of this new drug and are very much pleased to find that our best results occur when a single dose of the insulin protaminate is given before breakfast in the morning. This, of course, is most convenient for the patient. We have demonstrated clearly that in the average case the action of insulin protaminate extends into the second and third day, as a cumulative effect. This adds to the difficulty of judging the dose but permits administration of insulin at whatever time of the day is most convenient. The advantages in insulin protaminate and other longer acting insulins are, first, this matter of convenience; second, a continuous insulin action over the twenty-four hours. The duration of action of regular insulin is not over six hours. Unless one gives four injections a day, there must be periods when the patient is not receiving any help. Such periods probably are dangerous; at least they are harmful. The use of insulin protaminate overcomes this difficulty.

4. Greene, C. H.: Personal communication to the author.

5. An interesting article emphasizing the importance of postprandial insulin has recently appeared: Sindoni, Anthony, Jr.: Optimum Time to Administer Insulin, Arch. Int. Med. **57**: 949 (May) 1936.

**Milk and Vitamins.**—Milk contains all the known vitamins. While each of the vitamins may be found in other foods also, and some of them often in higher concentrations, there are few if any other foods which furnish all these vitamins in such well balanced proportions as does milk.—Sherman, H. C.: Food and Health, New York, Macmillan Company, 1934.

# ALCOHOL INJECTION IN THE TREATMENT OF MAJOR TRIGEMINAL NEURALGIA

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Clinically the diagnosis of major trigeminal neuralgia is not difficult. A vicious lancinating, paroxysmal pain in either side of the face referred to the tongue or teeth, the upper or lower lip, nose or forehead in man or woman of 50 or 60, especially if a characteristic burst of pain can be excited by slight irritation of a particular point on the tongue, lips or cheek, constitutes briefly the syndrome called tic douloureux. Relief from this dreadful pain can be afforded only by blocking the sensory pathways in the trigeminal nerve either peripheral to the gasserian ganglion or between the ganglion and the brain stem.

Surgical measures to sever the sensory root of the fifth nerve have been repeatedly described and standardized, but the value of peripheral block with alcohol of the appropriate branch of the trigeminal nerve as a means for relieving the pain of tic douloureux and as an aid in the differential diagnosis of this condition has received less attention.

In this country the extra-oral subzygomatic technic described by Levy and Baudouin [1] is most commonly used in the injection of the mandibular and maxillary branches of the fifth nerve. The intra-oral method devised by Schlösser [2] and advocated by Ostwald,[3] as well as the maneuvers necessary to inject the gasserian ganglion itself described by Hartel [4] and so strongly advised by Harris,[5] have met less favor. Patrick [6] in 1907 and again in 1912 reported satisfactory results with the Levy-Baudouin method and did much to popularize it. In 1922 I [7] published two reports describing certain refinements making for greater accuracy in performing the injection by this technic and hence more satisfactory clinical results. Horrax and Poppen [8] in 1935 reported a large series of successful injections employing the extra-oral subzygomatic approach.

Any description of the technic used in injecting the maxillary or mandibular branches of the trigeminus suggests that they can be reached with ease and accuracy. But these nerves are roughly 3 mm. in diameter and lie from 4.5 to 5.5 cm. beneath the skin. Complete relief of pain demands that the alcohol be injected directly into the nerve sheath. Certain fixed external landmarks exist, and fairly precise instructions can be given for the direction and depth of the injecting needle. But these external landmarks will have slightly different relationships to the deeper structures in brachycephalic or dolichocephalic individuals. Hence the practice of this technic on the cadaver prior to its clinical application cannot be too strongly urged.

The armamentarium necessary for alcohol injection consists of two hypodermic needles 1.5 and 3 cm. in length with two 2.5 cm. syringes and two 22 gage lumbar puncture needles. The bevel of these needles should be shortened by polishing to a 22.5 degree angle. If the bevel is long, as in the standard needle, the point alone may be in the nerve sheath. Hence alcohol can leak out through the heel of the bevel and not enter the nerve. A protractor for measuring angles with a centimeter scale on its base, and small bits of cork to act as stops to fit on the shafts of the needles and thus determine the depth of penetration, together with 10 cc. of 2 per cent procaine hydrochloride and 5 cc. of absolute alcohol complete the necessary equipment.

The patient is placed on the back with the head elevated on a sand pillow and turned to expose the cheek area through which the injection is to be made. Local anesthesia is always used and never injected deeper than the zygoma. If the deeper structures as well are infiltrated with procaine it may be difficult to determine whether resulting anesthesia is due to procaine having reached the nerve or to alcohol. A general anesthetic is unsatisfactory because the pain reaction caused by the entrance of the needle point into the nerve is the only definite evidence that the needle has been properly placed. When the patient complains of pain in the upper or lower lip, a drop or two of alcohol is injected. The area is then tested for anesthesia and, if loss of pain sensation can be demonstrated, 0.75 cc. of absolute alcohol is injected. Complete anesthesia should be produced. If the needle point is properly engaged in the nerve, some force will be required to introduce the alcohol.

TABLE 1.—*Major Trigeminal Neuralgia, 185 Cases*

| | | | |
|---|---|---|---|
| Males | 87 | Females | 98 |
| Right fifth nerve | 152 | Left fifth nerve | 98 |

TABLE 2.—*Age Incidence*

| | No. of Cases | | No. of Cases |
|---|---|---|---|
| 20–30 | 2 | 60– 70 | 55 |
| 30–40 | 7 | 70– 80 | 12 |
| 40–50 | 36 | 80– 90 | 5 |
| 50–60 | 66 | 90–100 | 2 |

TABLE 3.—*Division Involved*

| | | | |
|---|---|---|---|
| Left first | 6 | Right first | 4 |
| Left second | 52 | Right second | 73 |
| Left third | 40 | Right third | 75 |

## TECHNIC

*Injection of the Supra-Orbital Nerve.*—This nerve is injected as it emerges from the supra-orbital foramen. The supra-orbital notch is easily palpated in the orbital ridge. A hypodermic needle is inserted through the skin directly into the foramen. The plane of this foramen is usually at an angle with the midline from without inward. The needle on engaging the foramen in the ridge may be directed slightly outward to enter the canal itself. Care must be taken to hug the bone closely with the needle tip to avoid infiltration of alcohol into the orbit. When the needle enters the nerve, pain

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1. Levy, Fernand, and Baudouin, Alphonse: Les injections profondes dans le traitment de la neuralgie facile rebelle, Presse méd. **13:** 108 (Feb. 17) 1906.
2. Schlösser: Heilung peripherer Reizzustaende sensibler und motorische Nerven, Ber. d. Ophth. Gesellsch. Heidelberg **31-32:** 84, 1903-1905; Erfahrungen in der Neuralgiebehandlung mit Alkoholeinspritzungen, München. med. Wchnschr. **54:** 902 (April 30) 1907.
3. Ostwald, F.: Traitment des neuralgies rebelles par les injections profondes d'alcohol, Presse méd. **12:** 812 (Dec. 16) 1905.
4. Hartel, Fritz: Ueber die intracranielle Injectionsbehandlung der Trigeminus Neuralgie, Med. Klin. **1:** 582 (April 5) 1914; Die Behandlung der Trigeminus Neuralgie mit Intrakraniellen Alkoholeinspritzungen, Deutsche Ztschr. f. Chir. **126:** 429 (Feb.) 1914.
5. Harris, Wilfred: Trigeminal Neuralgia and Its Treatment, Lancet **1:** 567 (March 14) 1931.
6. Patrick, H. T.: The Treatment of Trifacial Neuralgia by Means of Deep Injections of Alcohol, J. A. M. A. **49:** 1567 (Nov. 9) 1907; The Technic and Results of Deep Injections of Alcohol for Trifacial Neuralgia, ibid. **58:** 155 (Jan. 20) 1912.
7. Grant, F. C.: Anatomic Study of Injection of Second and Third Divisions of Trigeminal Nerve, J. A. M. A. **78:** 794-797 (March 18) 1922; Alcohol Injection of Second and Third Divisions of Trigeminal Nerve: Clinical Results with More Exact Technic, ibid. **78:** 1780-1781 (June 10) 1922.
8. Horrax, Gillert, and Poppen, J. L.: Trigeminal Neuralgia, Surg., Gynec. & Obst. **61:** 394 (Sept.) 1935.

will radiate over the forehead toward the hairline and down the bridge of the nose. The nasal branch is often difficult to block, for it may divide from the main trunk of the supra-orbital well within the bony canal.

*Injection of the Maxillary or Second Division.*—The landmarks for this injection are the external auditory canal and the lower border of the zygoma, which is

Fig. 1.—Alcohol injection of maxillary division on right, showing angle of needle from above downward and anesthesia produced by successful injection.

easily palpable. The needle is inserted just below the zygoma at a point 3 cm. anterior to the anterior bony edge of the auditory canal. The mouth should be widely opened to throw the coronoid process of the mandible forward clear of the needle. From this 3 cm.

TABLE 4.—*Results of Injections*

| | | | | |
|---|---|---|---|---|
| Total injections | | | | 331 |
| Trigeminal neuralgia | | | | 250 |
| Malignant disease of face | | | | 81 |
| | | Results in 331 Injections | | |
| | | Successful | Failure | Percentage |
| First division | 10 | 9 | 1 | 10 |
| Second division | 155 | 124* | 31 | 20 |
| Third division | 166 | 131 | 35 | 21 |
| | | Duration of Relief of Pain | | |
| | | Patients | | Months |
| First division | | 7 | | 11+ |
| Second division | | 105 | | 14+ |
| Third division | | 117 | | 16+ |

mark the needle is introduced inward, forward and upward at an angle of 115 degrees with the skin surface from above downward and from before backward. The needle passes upward and forward in the plane of the external canthus of the eye but is directed behind the eye as though it were pointed at the optic nerve. At a depth of about 5 cm., bone will be encountered, the pterygoid plate of the sphenoid. The outer end of the needle must now be slightly depressed so that the point will pass in front of this obstruction and enter the pterygopalatine fossa. Without change in direction the needle is now advanced from 0.5 to 0.75 cm. farther and should encounter the nerve. When the nerve is touched the patient will instantly complain of severe pain in the upper lip and the ala of the nose; 0.75 cm. of alcohol can now be injected.

The only hazard connected with injection of the maxillary division is too deep penetration of the needle; 6.5 cm. is the maximum depth compatible with safety, although in a long narrow skull this penetration might result in puncture of the nose or orbit. The orbital structures should, of course, be most carefully avoided. Paresis of the external rectus muscle and diplopia have followed too deep an injection. Fortunately, this muscle paralysis is usually only temporary.

In a certain percentage of cases, as has been shown, the pterygoid wing may extend so far upward and forward and the pterygopalatine fossa be so deep that the nerve cannot be reached by this approach. Some of

TABLE 5.—*Complications Following Injections*

| | |
|---|---|
| External rectus palsy following injection of second division; none permanent | 0.7 |
| Facial paralysis following injection of third division | 1 |
| Ulceration of mouth following injection of second division | 4 |

the unsuccessful attempts to inject the maxillary nerve are due to these abnormalities in the anatomy of the structures that surround it.

*Injection of the Mandibular Nerve.*—The anterior edge of the bony wall of the external auditory meatus and the lower edge of the zygoma again form the external landmarks. The mandibular notch of the jaw is palpated through the skin. A point 2 cm. in front of the anterior edge of the external auditory canal will center on the mandibular notch. The needle is inserted at this point and directed inward at right angles with the skin in the horizontal plane and slightly upward at

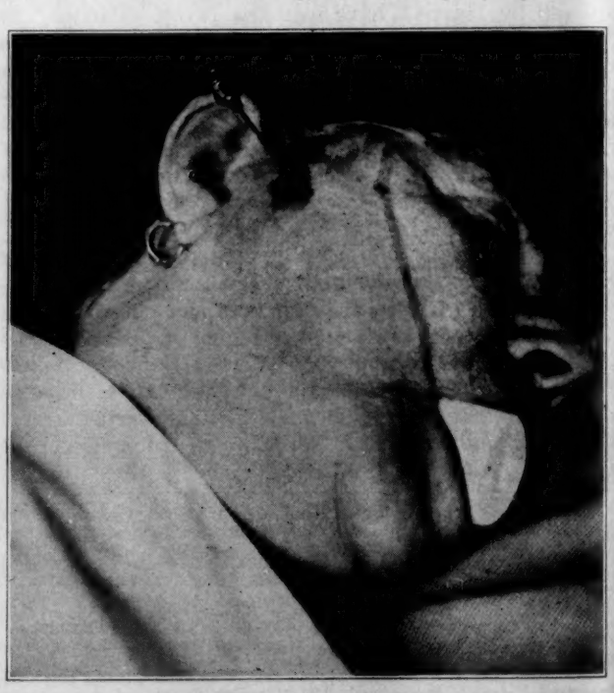

Fig. 2.—Same patient, showing angle of needle from before backward.

an angle of 110 degrees from above downward in the vertical plane. At a depth of 3⅓ to 4 cm. bone is encountered and by lowering the point of the needle 1 or 2 mm. one advances it another 0.5 cm. to encounter the nerve. As the needle point engages the nerve the patient will complain of pain in the lower lip and tongue. No anatomic obstacle prevents injection of the mandibular nerve by this route. In about 25 per cent of cases the plane of the foramen ovale slants out-

ward sufficiently from the midline for the needle point to enter it. Hence the injection of the ganglion may be made if indicated. If the needle point is dropped too low and the penetration is too deep, the nasopharynx is entered. More frequently the needle is directed too far posteriorly and the eustachian tube encountered, causing pain in the ear. If this occurs the needle should be withdrawn a centimeter or two and directed slightly more anteriorly. The chief reason for lack of success in reaching the mandibular nerve is too deep insertion of the needle as the result of introducing it too low and encountering bone behind the location of the nerve.

This report is based on a series of 331 injections of the various branches of the trigeminal nerve. Two hundred and fifty injections were given to 185 patients suffering from major trigeminal neuralgia. Eighty-one injections were performed on sixty-nine patients suffering from pain in the trigeminal area due to malignant disease of the lips, tongue, cheek, nose or maxillary sinus. The tables show the age incidence, sex, laterality, branch of the trigeminal injected, percentage of successful injections and average period of relief from pain. The statistics in the cases in which injection was done for malignant conditions are included only in the last two groups. Lastly the rare complications are recorded.

Alcohol injection of the peripheral branches of the trigeminal nerve by the technic described is a valuable procedure. By its use a positive diagnosis of major trigeminal neuralgia can be reached. If a patient has pain in the face and if the branch of the trigeminal nerve supplying the skin area to which the pain is referred is successfully blocked, producing anesthesia and relief of pain, this is definite proof that the pain traveled over sensory pathways in the fifth nerve. But if the expected anesthesia is produced and the pain is not relieved, the case is one of the vague group described by Cushing[9] and by Glaser[10] as atypical facial neuralgia and further procedures directed against the fifth nerve are useless. Many an unnecessary section of the sensory root of the trigeminus could have been avoided if this test had first been applied.

Early sufferers from tic douloureux shy away from an immediate operation and demand nonoperative relief. Alcohol injection will afford this for more than a year at least. Furthermore, the patients become accustomed to the anesthetic area on the face and when they return for operation are completely satisfied to learn that a subtotal avulsion of the sensory root will not markedly increase this anesthesia while permanently relieving the pain.

In eleven cases in this series the patients presented themselves for operation but were so starved and dehydrated on account of the pain caused by eating or drinking that a preoperative nerve block was necessary. With the pain relieved, proper water intake and nourishment could be given to make them fit subjects for operation. Fourteen patients were over 75, two over 90. Relief of pain by alcohol injection was obviously much to be preferred to operation.

With regard to the cancer cases, little need be said. Attention has been drawn previously to the value of blocking appropriate nerves to relieve the continuous and distressing pain only too often accompanying malignant disease of the face.[11] This seems a simple act of mercy all too infrequently employed. Not only is the pain stopped but radical treatment no longer causes suffering. And occasionally the ability to sleep, eat and accept intensive treatment without pain has rallied these people to the point at which complete disappearance of the malignant tumor has occurred.

The disadvantages of alcohol injection briefly are that it is a painful procedure, that even in experienced hands the nerve may not be successfully blocked, and that occasionally a temporary external rectus or facial palsy may result.

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## ABSTRACT OF DISCUSSION

DR. WALTER E. DANDY, Baltimore: My reaction to Dr. Grant's paper is one of surprise. How could such a good surgeon perform so many alcoholic injections? The operative attack is so safe and the result is permanent. I do not like alcoholic injections. There are, of course, some indications for them but these are not frequent. Occasionally one may have difficulty in making a differential diagnosis between glossopharyngeal neuralgia and trigeminal neuralgia, or between trigeminal neuralgia and one of the obscure pains in the face, but such uncertainties are uncommon. Then, too, in malignancy or in a very senile patient whose tenure of life is quite brief, alcoholic injections may be in order; but for the ordinary patient with trigeminal neuralgia, I cannot believe that there is any indication. Injections are very painful at best, and patients who have had one are very reluctant to endure another, especially when relief is only temporary. A patient with trigeminal neuralgia must look forward to repeated injections every year or year and a half until the end of life. Usually the pain of the injection is such a terrible ordeal that they are even willing to suffer the pain for some time before again consenting to another injection. My feeling is that, as soon as the diagnosis is made, the only form of treatment is section of the sensory root of the fifth nerve, either partially or totally, as the case demands. I usually put the situation before a patient, telling him that he can have the alcoholic injection with temporary relief, or have the operation which will take practically no risk now in safe hands, and it is very uncommon, indeed, for anybody to choose the alcoholic injection.

DR. J. GRAFTON LOVE, Rochester, Minn.: I will present the results of the experiences I have had at the Mayo Clinic with the use of alcohol injection in major trigeminal neuralgia. We have had practically no experience with the use of alcohol in the malignant conditions about the face. At the clinic we ordinarily recommend from one to three deep injections of alcohol before advising operation or accepting the patient's request for operation. As Dr. Grant stated, the injection of alcohol serves to clinch the diagnosis. It educates the patient to the feeling of absolute numbness which it gives him in lieu of the pain. In decrepit patients or patients with far advanced heart or kidney disease the operation is contraindicated. The latter indication for alcohol injection, however, is met less and less frequently, for we have recently completed a series of more than 300 operations on the trigeminal nerve by the transtemporal approach, without a death. Alcohol injection is recommended for patients who have had trigeminal neuralgia for only a short time, for patients in whose history there is some doubt as to the true diagnosis of the condition, and for patients in whom an operation, even of this mild risk, is contraindicated. All patients suspected of having trigeminal neuralgia are seen by a neurosurgeon in consultation with a member of the neurologic department. The neurosurgeon recommends the type of treatment to be carried out. If alcohol injection is decided on, the patient is referred to the department of oral and plastic surgery. These surgeons devote all their time to diagnosis and treatment of conditions about the face. They have been doing alcohol injections for years. The injections are given under gas anesthesia, so that the patient experiences no pain. I too have had the experience of recom-

9. Cushing, Harvey: The Major Trigeminal Neuralgias and Their Surgical Treatment, Am. J. M. Sc. **160**: 157 (Aug.) 1920; The Rôle of Deep Alcohol Injections in the Treatment of Trigeminal Neuralgia, J. A. M. A. **75**: 441 (Aug. 14) 1920.

10. Glaser, M. A.: Atypical Neuralgia, Arch. Neurol. & Psychiat. **20**: 537 (Sept.) 1928.

11. Grant, F. C.: Relief of Pain by Nerve Section, J. A. M. A. **92**: 116 (Jan. 12) 1929.

mending alcohol injection to a patient who has had a previous injection and having it flatly refused. The patient said he would rather keep the pain than be subjected to the injection under a local anesthetic. I think that has been the experience of most people. After one or, at most, three injections of alcohol, we advise or meet the patient's request for a division of the sensory root. We carry out the transtemporal operation, subtotal section of Frazier or the complete section of the sensory root between the ganglion and the pons.

Dr. Peter Bassoe, Chicago: With the great improvement in the radical surgical treatment of trifacial neuralgia, I now feel it my duty to try to persuade the victims to have operation rather than alcohol injection. Still some patients prefer the injection treatment. I note with interest that Dr. Grant uses a different landmark for the deep injection of the middle branch than the one recommended by Levy and Baudouin. I have found the latter landmark satisfactory and have had more difficulty with the lower branch. As to the use of injection in differentiating between trifacial and glossopharyngeal neuralgia, I have had a peculiar experience. I have seen only five or six cases of glossopharyngeal neuralgia, and two of them were complicated by trifacial neuralgia. I have found that injection can be made fairly painless by first injecting procaine and epinephrine. I congratulate Dr. Grant on having paralyzed only the sixth nerve, as I have also paralyzed the third nerve several times. Fortunately this paralysis soon disappeared.

Dr. Ernest Sachs, St. Louis: I have seen many cases of pain in the face in which I was unable to make a positive diagnosis of trigeminal neuralgia. Possibly because I am in St. Louis I see many cases of the late Dr. Sluder in which differential diagnosis is extremely difficult. In those cases, as Dr. Grant has said, I think it is invaluable to try the alcohol injection first to establish the diagnosis. Then there is also a limited number of cases, as he said, in which the pain has existed for a very brief time. In those cases I think the alcohol injection first is of distinct value.

Dr. James Rudolph Jaeger, Denver: I have had the experience in a number of instances of having produced a complete anesthesia over the particular division of the fifth cranial nerve I have injected and then finding that the neuralgia persisted over that division. In other words, I do not think that a satisfactory area of anesthesia with pain still referred to that area is always positive evidence that the pain is not that of tic douloureux. If one gets anesthesia and still has the pain typical of tic douloureux in the anesthetic area, it certainly leads one to believe that the pain exists in the ganglion itself or at least in the root of the fifth nerve between the ganglion and its foramen of exit from the skull. In a number of cases in which I produced good anesthesia over the root of the fifth nerve by alcohol injection, subsequent section of the sensory root cured the neuralgia. I do not think that alcohol block in the peripheral branch is always of diagnostic value in true major trifacial nerve pain. As Dr. Grant has said, most neurosurgeons prefer not to inject the ganglion. They are fearful of this procedure. It is my belief that the person who does a good, complete ganglion injection with alcohol must be a very brave person. As yet I have not developed the courage to do the ganglion injection.

Dr. A. L. Skoog, Kansas City, Mo.: I am wondering if Dr. Grant has had experience with cases that seem to have been restored by injection of the branches. Some fifteen years ago Dr. Adson of the Mayo Clinic referred to me a patient for repeated injections. She was an elderly woman with advanced arteriosclerosis, hypertension and a bad heart. She was not considered a good risk for operation. She had a blood pressure of 270 systolic on several occasions. The second and third branches of the right side were involved. I made six or seven injections in the course of two years. Then she went on requiring no injections, apparently free from pain for something like five years and died. Unfortunately, we had no autopsy. She was 77 or 78 at the time of her death. Possibly enough alcohol had been injected on several occasions to produce a sclerosis and more or less complete blocking of pain.

Dr. Francis C. Grant, Philadelphia: Alcohol injection has a definite place in the treatment of trigeminal neuralgia. Certain patients refuse operation, in others the diagnosis between true and atypical facial neuralgia is difficult, and alcohol injection is a very satisfactory way to differentiate between these conditions. Lastly, a successful alcohol injection with relief of pain accustoms the patient to the numb area in the face so that when operation is performed with permanent removal of the pain the patient will know just how his face will feel. I must disagree with Dr. Dandy that a radical operation is the primary treatment for these cases. Dr. Sachs has, I am sure, had the same experience that I have had. I have seen cases of atypical neuralgia so closely simulating the true major neuralgia that immediate operation seemed entirely justified. The sensory root was completely severed and the trigeminal sensory area rendered permanently anesthetic. But the pain continued and furthermore the patients complained bitterly about the anesthesia of the face. I have never seen a case in which, following a successful peripheral alcohol injection failure to relieve pain was noted, that was subsequently relieved by sensory root section. It is as an aid in differential diagnosis and the avoidance of unnecessary sensory root resection that peripheral alcohol injections are most valuable. Dr. Hassin commented on the position from which the second division injections was made. The original Levy and Baudouin technic punctured the cheek farther forward. When I was practicing this technic on the cadaver, as is noted in a paper published in 1923, I found that if the injection was made from a point 5 cm. in front of the external auditory canal and the needle was inserted too deeply, the optic nerve could be injured. The injection from the 3 cm. mark in front of the external auditory canal does away with this danger. I believe that the second division may be reached just as easily from this point as from farther forward. None of these technics for peripheral alcohol injection of the maxillary or mandibular branches should be attempted on a patient without careful experience on the cadaver.

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# OCULAR HYPERTENSION IN GLAUCOMA

## ERRORS IN OPERATIVE TECHNIC LIKELY TO CAUSE FAILURES IN OPERATIONS FOR ITS CONTROL

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Since the operative procedures to be discussed for the reduction of increased intra-ocular tension have to do directly with the anterior segment of the eyeball, it seems advisable to consider only this portion of the eye.

It is assumed that the cases judged operable have been thoroughly worked up, with the elimination of all conditions likely to interfere with or subsequently nullify the possible success of an operation. Constitutional, metabolic, nutritional states, tissue change due to age, and focal infections all have to be determined and weighed as to their influence on tissue repair, hemorrhage or infection. As Colonel Elliot [1] puts it: "Eliminate all sources of endogenous sepsis; observe scrupulous sepsis." The latter point was strongly emphasized by Clifford Walker last year. He showed that even small particles of foreign matter in a trephine tip were the source of irritation, congestion and infection. The judgment, skill and care in carrying out operative procedures should further be safeguarded by keeping the patient quiet, using hypnotics or even a general anesthetic. The Van Lint [2] lid block, a thoroughgoing local anesthesia and a retrobulbar anesthesia by way of the capsule of Tenon or by a ciliary ganglion block should be used.

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Read before the Section on Ophthalmology at the Eighty-Seventh Annual Session of the American Medical Association, Kansas City, Mo., May 14, 1936.

1. Elliot, R. H.: A Treatise on Glaucoma, ed. 2 (Oxford Medical Publications), London, Frowde, 1922; Trephining, Arch. Ophth. 8: 797-803 (Dec.) 1932; personal communication to the author.
2. Personal communication to the author.

The type of operation to be done is based on the estimated change in tissues and any alteration in the position of the parts involved in an eye with hypertension, and carried out only after proper measures—local and systemic—have been thoroughly tried and have failed. The consensus is that medical measures are apt to be carried on too long, permanent damage occurring, or that the patient has waited too long before seeking advice and operation. Should the tension be too high to operate safely, an anterior or posterior sclerotomy may be necessary to reduce tension and deepen the anterior chamber.

Light, dextrous, deliberate, clean-cut operative methods with the least amount of trauma to the tissues always secure the best results. Rough handling or bruising of tissues, so that a congestive irritation is set up, delays healing and encourages infective processes.

Magitot [2] says: "All operations, iridectomy, cyclodialysis, sclerecto-iridectomy, may have good or bad results. This does not depend upon the technic but upon the nature of the local condition, the vascular disorder. . . . The glaucoma is a symptom, the hypertension a disease."

The classification of the types of glaucoma and the operative procedures most commonly used as suggested by Gradle [3] will be followed.

The therapeutic iridectomy is aimed at the reestablishment of the normal pathways for the drainage of intra-ocular fluids. Its object is to make a limbic incision, to excise a portion of the iris, to free the filtration angle before anterior peripheral synechias have solidly formed, to open a free passage between anterior and posterior chambers and to revive the equilibrium of inflow and outflow of ocular fluids by way of the iris circulation and filtration angle.

*The Incision.*—In the words of von Graefe: [4] (*a*) it should be as eccentric as possible in order to remove the iris as far as its ciliary attachment (this is essential to success); (*b*) the aqueous should be allowed to escape slowly.

The usual tendency in making a keratome incision, especially if the anterior chamber is shallow, is to make the incision too far forward in the cornea in attempts to avoid the iris; or, if all allowance is not made for the corneal curve or the position of the eye when the patient looks down, the incision is made too obliquely, producing a corneal shelf posteriorly, as shown in postoperative microscopic sections. In either event, the iris cannot be removed up to its root; a portion is left to adhere in the filtration angle.

If the incision is made with a keratome, its insertion and withdrawal should be deliberate, on a plane with the iris. If the handle is too far forward the tip will catch the iris, dragging the iris away from its root, causing pain and hemorrhage; should the forward movement be persisted in, the operator endeavoring to make his incision wide enough, the zonula and lens may be injured. In withdrawing the keratome is when most errors are committed: the handle is carried far forward, allowing the tip to scrape along the anterior capsule of the lens and the iris is forced backward, causing undue pressure on the zonula at the same time that the wound gapes, permitting an expulsive loss of aqueous. A knife incision when the anterior chamber is shallow is safer, although even here care in cutting out slowly should be observed. In these cases an iridectomy ab externo is an excellent procedure.

The width of the incision, too, should be enough to allow easy instrumentation for the iridectomy and not large enough to encourage too rapid a loss of aqueous or a large prolapse of iris or even the ciliary body.

*The Iridectomy.*—Von Graefe thought that "a large portion of the iris should be excised, the more intense the symptoms the more extensive the excision." In the cases considered for this operation today in the early stage, one is apt not to follow this dictum; removal of the iris at its root, establishing a free communication between the anterior and the posterior chambers, and the reestablishment of circulatory equilibrium make it unnecessary to form a large coloboma, which gives a most annoying dazzling from too much light entering the eye. The iris forceps should be slid over the posterior lip of the wound, closed and opened only 2 mm. over the sphincter of the iris, which it grasps lightly. Attempts at entering the wound with conjunctiva, of the anterior lip over the tip of the forceps, or attempts to grasp the iris by tipping the forceps strongly backward may produce a dialysis of the iris, break the zonula or dislocate the lens. The iris should be drawn out slowly until just taut, cut through the sphincter on one side, and then gently torn from its base from 3 to 4 mm. and again cut. Continued dragging upward may tear the iris entirely out or leave the iris pillars firmly incarcerated in the angles of the wound.

*Toilet of the Wound.*—The iris pillars should be stroked easily or floated by saline solution into position, from periphery toward the pupil, no pressure being used. The conjunctiva should be placed in position and sutured if necessary, so as not to allow it to slide down and buckle into the wound, a deep vascularization taking place from this faulty position of the conjunctiva.

Some surgeons believe that atropine instilled after an iridectomy is superfluous and wait for iritic signs and symptoms to arise before so doing. It is essential to make this instillation of atropine a routine, unless for any reason, as in peripheral iridectomies, for forty-eight hours the pupil is to be drawn down with miotics for the purpose of keeping the iris out of the wound. A traumatized iris is bound to react by slowing up of the blood stream, the contents of the blood vessel being exuded into the area, blocking the filtration angle, or leading to an infection, unless studied with a slit lamp under magnification and measures adopted accordingly. This is not appreciated until irreparable damage has been done or at least started, the stimulation of cellular proliferation going on to wound repair.

The Lagrange [5] sclerecto-iridectomy is an operation, as is the Elliot trephining and the Holth [6] iridencleisis procedure, to establish extra-ocular pathways for the drainage of intra-ocular fluids. The object of this operation is an excision of a portion of sclera in the filtration angle under a conjunctival flap, sectioning the scleral spur, opening up the suprachoroidal space, and excision or not of a portion of the iris.

3. Gradle, H. S.: A Critique of Glaucoma Operations, Am. J. Ophth. **18**: 730-735 (Aug.) 1935.

4. von Graefe, Albrecht: Arch. Ophth. **4**: 127, 1858; New Sydenham Soc. Proc., 1859, p. 368.

5. Lagrange, P. F.: On the Production of a Filtering Cicatrix in Chronic Glaucoma, Ophthalmoscope **5**: 467-472 (Sept. 1) 1907; On the Filtering Cicatrix in the Cure of Glaucoma, ibid. **6**: 363-374 (May 1) 1908.

6. Holth, S.: Iridencleisis antiglaucomatosa, Ann. d'ocul. **137**: 345-375 (May) 1907; Sclérectomie avec la pince emporte-pièce dans le glaucome, de préférence après incision à la pique, ibid. **142**: 1-15 (July) 1909.

In the original operation, when a knife incision is used with a removal of the scleral segment by scissors or knife (Kalt) cut or Vacher punch, the least amount of trauma to parts involved is done and the sclerectomy covering is usually adequate. This too can be said of the modified operations with the keratome, although here the incision into the anterior chamber is further forward, not sectioning the scleral spur.

The errors in technic with the incision occur in making the incision too far back, so that the ciliary body is injured, in making the sclerectomy too wide and too long (as when first advised it was 7 by 1 mm.). The ciliary body and processes bulge forward into the wound. Should the sclerectomy be too narrow, much less than a millimeter in width, it closes over from episcleral connective tissue growth surely and rapidly.

This operation offers a nicety of judgment and skill to be demonstrated only by a surgeon accustomed to doing it.

The iridectomy, whether complete or peripheral, should be such as not to leave iris incarcerated in the wound. Lagrange and Holth insisted on this, although later Holth found that iris incarcerations were of aid in forming a filtering cicatrix. He later devised and continues to carry out the iridencleisis procedure. It might be said here that the iridodialysis done by Spratt [2] can be done in these cases, especially when an active iris can be controlled with miotics long enough to have the aqueous go directly through from the posterior chamber into the peripheral anterior chamber and into the fistulous opening. When this does not occur, the iris persisting to prolapse or, when the iris is atrophic, the root of the iris should be excised, leaving the iris sphincter intact for whatever miotic action is necessary, avoiding the disturbing coloboma.

Lagrange always insisted on early massage in these cases, keeping the tension between 12 and 25 (Schiötz) if possible. As with the trephine, if the sclerectomy is too large, hypotony with its ensuing degenerative changes may follow.

The toilet of the wound is done with the same care as in the therapeutic iridectomies with a suturing of the conjunctiva and the instillation of atropine. One is reminded that careful observation of the reaction of the iris to injury subsides in a few days, when the atropine can be discontinued. When continued longer it may act as an irritant, defeating the object of its instillation.

The trephine operation in this country and in many European eye clinics is the operation most used for filtering purposes, for chronic uncompensated (late stages), compensated hypertensive cases and infantile types of glaucoma. The first fault likely in carrying out this operative procedure is in making the conjunctival flap.

Colonel Elliot says:

1. Fashion a wide-based conjunctival flap, avoid injury of the subjacent tissues as much as possible whilst raising it.
2. Carry the dissection as low as possible.

The trauma involved in securing this conjunctival flap, perhaps not too large, if not done lightly and speedily with avoidance of pressure on the globe, may cause a delay in the formation of the anterior chamber. This, too, may follow a buttonholing of the flap.

Colonel Elliot makes a strong point of splitting the cornea, not cutting it, and Calhoun [1] believes that this should be properly done to ensure the placement of the trephine well on the cornea.

If the conjunctiva with subconjunctival tissue and episcleral tissue is dissected well onto cornea to the limit seen in the microscopic sections—done cleanly, leaving no episcleral tissue to allow the trephine to slip about—it would seem that splitting the cornea is an added trauma, with additional raw edges and subsequent irritation.

In the aged, little subconjunctival tissue is present; it is essential that episcleral tissue from the insertion of the superior rectus muscle should be taken down with the conjunctiva to avoid a thin conjunctiva over the trephine opening, avoiding a fistula or subsequent infection, should a virulent conjunctivitis supervene at any time. Case reports show that this may happen, and yet several writers have traced this possiblity to an iris strand in the wound, keeping up a local irritation, or a quiet iritis which leads on to an infection.

Complications are believed to follow the use of too large a trephine—2 mm.—too free drainage followed by hypotony. Colonel Elliot uses nothing else and has had no bad results or regrets from using this size trephine. My experience with the 2 mm. trephines was that the conjunctival flap seemed to lie flat on the opening and even be drawn into it from the hypotony that ensued, forming an excellent bridge for newly formed connective tissue to grow under it. Ciliary body, ciliary processes, vitreous and even lens have been seen in these wounds. The usual size trephine is 1.5 mm., which, unless sharp, requires much effort to make an opening; when the latter is made, it is ragged and often incomplete and leads to early wound closure from connective tissue formation. No scleral hinging is advised for this reason. A suture may be placed in the segment to be excised with the ends run through the hollow trephine shaft. The trephine advised and used by Walker is good for this purpose. The corneoscleral disk if lost need not worry the operator, and usually the escape of aqueous and bulging of the iris into the wound keep the disk out of the anterior chamber, especially if the trephine just cutting through the corneosclera is gently and slowly removed.

The site of the trephine opening by its author is half cornea and half sclera. Some writers believe that it should be well forward in the cornea, but most surgeons believe that cornea tissue proliferates easily, closing the opening. Others believe that this occurs if the opening is scleral in position.

A number of men lay the failure of a trephine opening to remain open permanently to the fact that the corneoscleral disk has not been removed cleanly. Sections of the disk should be completely lined or at least partly lined by Descemet's membrane. Uninfected wounds of the corneoscleral region, when bathed by aqueous humor, manifest no tendency to the development of granulation tissue and remain open indefinitely.

The complications of iridectomy are the same as those mentioned in the two previous operations; perhaps more so, as the area of operation is limited.

Errors are committed in simply cutting off the top of the iris as it is bulging into the wound, leaving the root of the iris to swing into the wound later; in not cutting away enough iris, so that when replaced it is not well away from the wound margins; in reaching for an iris which does not prolapse readily or at all. It is in the latter attempts that the zonula is broken and vitreous presents.

In the replacement of the iris, gentle massage on the cornea or a stream of physiologic solution of sodium

chloride may float it into place. All writers condemn the use of the spatula in the trephine opening as a source of injury to the lens and zonula.

Suturing the conjunctival wound, instillation of atropine when the iris has been traumatized and the use of massage in certain cases in which filtration is slowed up temporarily by a blood clot or iritic exudate is strongly advised. With the restoration of the anterior chamber and more or less normal ocular fluid, failure of drainage through the opening, and closure of this fistula, or absorption by way of the conjunctival and episcleral vessels is unlikely.

*Iridencleisis.*—This method of extra-ocular drainage, popularized by Holth, is becoming more used in this country for the same type of cases for which the Lagrange and trephine operations are done. In the secondary types following cataract operation it has seemed to be of help.

The same steps as in therapeutic iridectomy are carried out with the modification of Holth, using a punch excision of a millimeter strip of sclera in the filtration angle. The first cut in the iris is as mentioned, cutting the iris meridionally through the sphincter, with the resultant temporal or nasal portion of the iris placed under the conjunctiva as a tube or flattened out, exposing the epithelial layer under the conjunctiva. This represents an interposition of material between the cut ends of Descemet's membrane, over which the corneal endothelium does not grow. When the iris has become atrophic with loss of much of the pigment, filtration seems to stop with the formation of connective tissue from both the iris and the surrounding episcleral tissue.

Spaeth has shown that the lining of the filtration scar is made up of iris epithelium. Verhoeff earlier thought that the iris tissue atrophied and became stretched and cracked in areas, allowing the aqueous to flow into the separated fine connective strands making up the rest of the cicatrix.

Hemorrhage into the anterior chamber is often prevented, Gjessing believes, if a retrobulbar anesthesia with epinephrine is used. He has also said that "iridencleisis offers no more lasting good result than other operations for glaucoma."

Infection through the filtration area as well as sympathetic ophthalmitis has been reported.

*Cyclodialysis.*—This is Heine's operation for the intra-ocular drainage of the aqueous. Instead of a keratome, the sclera is usually incised with a knife underneath a conjunctival flap 4 to 5 mm. from the limbus. The ciliary body may be cut into, causing profuse hemorrhage. The separation of the ciliary body from the sclera, by breaking through the sclera, may be done so roughly that injury to the ciliary body later sets up an iridocyclitis. An iridectomy may be done before or even afterward, when the root of the iris is broken away from its peripheral adhesion. The breaking up of the suprachoroidal trabecular by the spatula is of help in opening up the suprachoroidal space, but if persisted in too violently more than 13 mm. behind the limbus, damage to the emissaria and contents, the lymphatics and cortex veins may occur.

Early failures of this operation were due to a limited opening, from 2 to 3 mm., avoiding a large dialysis of the ciliary body. Quick replacement followed the return to increased ocular tension. A wide dialysis allows the ciliary body to sag, and the pull of the ciliary muscles, if not atrophied, both meridional and circular, for a time at least keeps the suprachoroidal space open. Aqueous interposed between the raw surfaces prevents adhesions from forming. In many cases, as soon as the tension begins to rise again, these parts are pushed together, shutting off drainage.

It may be a temporary procedure much like repeated anterior sclerotomies in secondary glaucoma cases due to an iridocyclitis. It has been said that interference with vascular and nerve supply to the ciliary body is such as to decrease the supply of aqueous formed, giving a satisfactory result as far as hypertension of the eye is concerned. Increased ocular tension after a cataract operation seems to do favorably with this operation.

## CONCLUSION

The causes of failure in operations for the control of intraocular tension appear to be due to:

1. A well advanced ocular pathologic condition at the time of operative intervention.
2. The operative procedure not being the best one, in view of the tissue changes present.
3. Definite errors in operative technic and after-care.

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## ABSTRACT OF DISCUSSION

DR. HARRY S. GRADLE, Chicago: In all forms of glaucoma, the object of the surgeon is to restore a status of normal pressure equilibrium. The pressure equilibrium of the eye has a coarse balance in the form of the choroidal reservoir and a finer balance wheel in the aqueous humor. The ophthalmic surgeon can influence in any eye with a normal or an abnormal tension the outlet of the aqueous alone. He cannot influence the total fluid content of the eyeball; he cannot influence the formation of the aqueous; he can influence only to a certain extent the elimination of the aqueous from that eye. There are three possible ways in which that can be performed. The normal elimination may be restored through the chamber angle and the canal of Schlemm, a new passage may be opened between the ciliary body and the sclera whereby the aqueous can filter into the suprachoroidal spaces and there be absorbed, or an extra-ocular drainage may be formed for the aqueous. The type of operation to be employed must depend on the eye in question, and it is extremely difficult to lay down any set rules. If firm anterior adhesions between the iris root and the posterior surface of the cornea have been formed, it is a physical impossibility to open up the chamber angle to restore the normal drainage of that eye. No spatula and no knife ever devised can free the chamber angle adhesions so that the chamber angle may again be opened to normal function. The formation of a new intra-ocular drainage path, as exemplified by the cyclodialysis operation, is not a difficult procedure, but the application of that principle is limited to a small number of cases. It is obviously impossible for a pathway to remain open between the ciliary body and the sclera if there is an excessive amount of pressure on the other side of the ciliary body. In other words, if the pressure within that eyeball is high, it is entirely impossible for a cyclodialysis to be successful. The final type of operation is that of extra-ocular drainage. Now, which types are to be employed, and why is success attained in some and not in others? It stands to reason that the cases in which a real iridectomy may be performed for the purpose of opening up normal drainage paths are extremely limited in number, the acute uncompensated glaucomas and some of the forms of secondary glaucoma. The greatest difficulty lies in determining what operative procedure to use in the compensated forms of glaucoma. Here in the last year a very definite clue has been obtained in the chamber angle examination of Otto Barkan, who has shown whether or not one can hope to open a

pathway into the suprachoroidal spaces and thereby produce intra-ocular drainage, or whether the angles are so closed up and so pigmented that it will be necessary to do a type III operation.

DR. CHARLES N. SPRATT, Minneapolis: An important observation by Thomas Henderson is to be found in the *Ophthalmic Review* of 1907. In a series of thirty-three eyes on which iridectomy had been done, he reports a stump of iris 1 mm. in width after the flap operation. After the von Graefe section this iris stump averaged 0.75 mm. It seems to me that the iris tongue is the problem in all glaucoma operations. For twenty years I have done both the Lagrange and the trephine operation, the former being preferred because it is easier. It is difficult to make an iridectomy without leaving considerable iris base when operating through a trephine opening. Six years ago I combined the Lagrange operation, done beneath a pocket flap, with an iridodialysis instead of iridectomy. This was following a suggestion of de Wecker in 1894, who combined anterior sclerotomy with iridodialysis. The orbit is injected with procaine hydrochloride and a suture is placed in the superior rectus for fixation. An incision is made in the conjunctiva 10 mm. above the limbus and a pocket flap is made as in the cataract extraction. A mattress suture is placed in the conjunctiva before the eye is opened. The suture adds to the safety of the operation and is more easily placed at the beginning than at the end. A typical Lagrange is next made with a narrow von Graefe knife. The flap of sclera is incised with scissors or, if one prefers, with a punch. The iris is grasped at its periphery with iris forceps, which are then pushed forward toward the center of the pupil. The iris separates at its attachment at the ciliary body, forming a dialysis. Thus no iris stump is left to block the wound and there is a round pupil. The objections to this operation are, first, hemorrhage, and, second, possible injury to the lens. The latter does not take place as the iris, held by the forceps, protects the lens and any blood is rapidly absorbed. I have now records of ninety-six eyes that have been operated on by this method and these have been under observation from two months to six years. I have had five failures; that is, the tension has not remained down. Some of the eyes in which the tension has been lowered have shown loss of visual field and deterioration of the central vision.

DR. PHILIP D. O'CONNOR, Chicago: In making the keratome incision the tendency is to go too far forward in the cornea or to enter the anterior chamber at such an angle that there is a flange of cornea posteriorly. In either case it is impossible to do a proper iridectomy. This cannot be emphasized too much. These errors in technic can be avoided by making the incision with a knife, as in the Lagrange operation. I should like to ask Dr. Weeks if he uses a subconjunctival injection of procaine before he makes the conjunctival flap in doing the trephine operation. I have made the flap with and without the injection. It seems much easier and the results better when the subconjunctival injection is made. There is less trauma, more episcleral tissue is on the under surface of the flap, the junction with the cornea is more clearly defined, and there is less danger in buttonholing the flap. Should splitting of the cornea be necessary, the extent of the splitting is lessened, especially if a 1.5 mm. trephine is used, as advocated by Dr. Weeks.

DR. WEBB W. WEEKS, New York: The indications for the type of operation called for are judged by the appearance of each eye viewed microscopically before and after operative procedures. These studies indicate that, in primary acute congestive glaucoma and in early chronic congestive glaucoma not relieved by local or general treatment, when anterior proliferal synechiae have not had time to organize, the basal iridectomy often permanently relieves the increased ocular tension. In the chronic glaucoma cases of some duration, in which the anterior proliferal synechiae are definitely organized into the connective tissue formation and permanent damage has occurred to the filtering spaces of Fontana, and in many cases of secondary glaucoma, the filtering operations, namely, the trephine, the Lagrange, the iridencleisis and the cyclodialysis procedures seem to be definitely indicated. Filtering operations, even the Elliot trephine operation, require a massage of the eyeball sometimes from the very first day after operation to dislodge a plug of exudate or hemorrhage, so that no irritation will occur sufficient to start a cellular proliferation and subsequent closure of the filtering wound by a cicatrix.

# Clinical Notes, Suggestions and New Instruments

## BLACK SPUTUM: ANTHRACOSIS AND SILICOSIS IN THE SAME PATIENT

HAROLD C. LUETH, M.D., EVANSTON, ILL.
V. A. GANT, M.S., AND DON C. SUTTON, M.D., CHICAGO

Pigmentation of the lungs following the inhalation of air containing small carbon particles is a well known condition. Anthracosis is so commonly asymptomatic that it is generally regarded as a harmless pathologic curiosity. The inhalation of silica dust, however, is responsible for definite symptoms and marked lung changes. Recently we were afforded the opportunity of observing a patient in whom the harmlessness of anthracosis and the marked symptomatology of silicosis were demonstrated. The expectoration of large quantities of black sputum with the clinical observations of silicosis made this case unusual enough to report.

### REPORT OF CASE

F. K., a white man, aged 56, entered ward 15 of the Cook County Hospital Feb. 5, 1935, complaining of cough, extreme fatigue on exertion, and occasional night sweats. Early in December he "caught cold," which condition lasted for ten days, although the fatigue and the exhaustion persisted. The slight cough became worse, so that two weeks before admission he expectorated large quantities of black sputum.

As a young man he worked in the coal mines near Oklahoma City for twenty-five years without any impairment of health. During an acute coryza he occasionally saw small black flecks in the sputum. As the result of a strike he left the mines in 1925 and came to Chicago seeking employment. The next four years he worked as a shipping clerk and was free from illness. Adverse business conditions left him without employment for six months. Then he accepted a job in a machine shop cleaning castings with a compressed air sand blast. Celluloid eye shields were the only protective devices offered. He soon developed a dry cough, the common complaint of the fellow workmen. After nine months this cough was productive, with the expectoration of black sputum. Sharp pleural pains, fever, hemoptysis and weakness followed, forcing him to bed for six weeks. At the end of this time all symptoms had disappeared except an occasional expectoration of black sputum. When he returned to work he was transferred to the paint department. This new work suited him better and he continued at it for a year without any illness, until discharged for economic reasons. During the first winter of unemployment (1931-1932) he had a typical acute bronchitis with fever, cough and weakness, which provoked a return of the black sputum. It lasted a month. After this the occasional cough with the expectoration of light gray sputum was the sole complaint. There were recurrences of the acute bronchitis during the next two years but they usually subsided in from four to eight weeks. However, the cough became chronic and the sputum darker in color with other alarming symptoms, so that he entered the hospital.

On admission the patient was slightly emaciated and did not appear acutely ill. Both cheeks were flushed and the buccal mucosa and the pharynx were red. The chest was symmetrical and slightly enlarged, and the expansion was moderately diminished. Respirations were shallow and frequently interrupted by paroxysms of coughing. Dulness was present over both bases, tactile fremitus was diminished, and there were fine moist râles throughout the lungs. The blood pressure was 122 systolic, 84 diastolic. Cyanosis was absent. The heart, abdomen and extremities were normal.

Blood, urine and gastric tests were normal. The sputum was repeatedly negative for tubercle bacilli.

Roentgenologic examination of the chest, on entrance, showed dense infiltration of the upper halves of both lungs, with several well defined oval areas in the lower parts. Three weeks later a second series of plates was taken to exclude the possibility of a metastatic malignant condition. The long bones and the gastro-intestinal tract were normal. The oval areas were still present, although considerably smaller. Old calcified hilus glands were seen and a fine reticular infiltration with distinct honeycomb markings was clearly discernible. There had been sufficient clearing of the original process to demonstrate silicosis.

X-ray films taken a year later showed a slight clearing of the fibrosis of the lungs.

A bronchoscopic examination was made by Dr. S. J. Pearlman of the ear, nose and throat department. He reported uniform black pigmentation of the entire bronchial mucosa.

The patient was kept in bed and given a high caloric diet. During the first week there were periods of fever to 99.4 F., and after that none. His appetite returned when he was afebrile and he soon regained his weight and strength. The second week after admission the dulness disappeared and in the third week the tactile fremitus returned to normal. Except for an occasional moist râle that disappeared after coughing, all his symptoms and physical abnormalities had subsided by the end of the fourth week. The patient's improvement was so great that it was difficult to remain in the hospital long enough for the collection of the last sputum specimen. He was discharged five weeks after admission, entirely well except for an occasional expectoration of light gray sputum. A year later, when last reexamined, the same condition persisted.

The amounts, color and character of the sputum were recorded daily. It was collected in the usual paper cups at first, but the large quantities made this method impracticable. A 500 cc. wide mouth glass bottle was found more satisfactory. From 175 to 250 cc. was expectorated daily, and these fluctuations could be accounted for by the careless disposal of mouth rinsings. As the first samples studied contained many black flecks, the possibility of a soot contamination was considered. To obviate these objections the following procedure for the collection of sputum was instituted: The patient gargled and rinsed his mouth with physiologic solution of sodium chloride at frequent intervals. Usually he was able to rinse his mouth just before a paroxysm of coughing. The rinsings and other materials were put in a separate container and destroyed. He was instructed to expectorate only such sputum as he believed came from "deep down in his lungs" in the special glass jar.

A jet-black color and limpid consistency of the sputum were constantly observed. When it was allowed to stand in a tall glass cylinder it would stratify into three layers: a yellowish black lower, a viscid jet-black middle, and a foamy white upper layer. The middle stratum occupied more than three fifths of the volume; the remainder was equally divided between the other two. Very little of the black material would settle on standing. In fact, some of the weekly specimens stood for six weeks without any appreciable precipitation. Microscopic examination showed that the lower layer consisted of numerous degenerated leukocytes, bacteria, débris and carbon particles. The middle stratum contained from 3 to 15 polymorphonuclear leukocytes per high power field with numerous (4 to 20) black masses. These particles were irregularly shaped fragments of different dimensions up to 10 microns. None of them were contained in the leukocytes. Their black shiny appearance offered a striking contrast to the pale leukocyte when stained with aniline dyes.

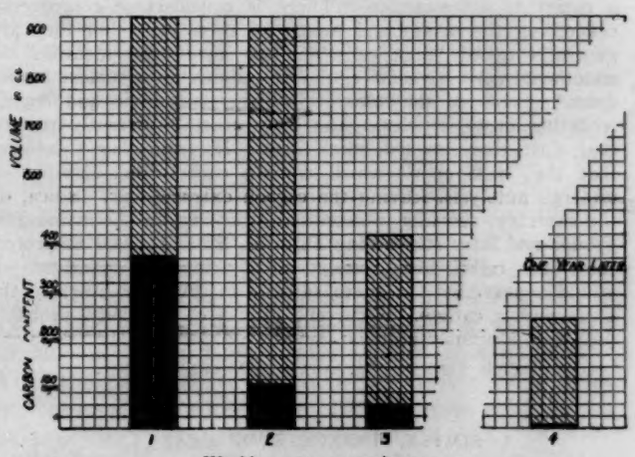
Chemical examination of the black particles of the sputum was performed as follows: Filtration through coarse filter paper was unsuccessful. The thick viscid sputum would pass through several thicknesses of gauze fairly well, leaving a small black residue. This was suspended in water and tested further. It was insoluble in distilled water, acetic or hydrochloric acids or dilute alkalis, either hot or cold; also in ethyl alcohol, acetone, sulfuric ether or benzine. It was readily combustible and was burned completely over a free flame. From these tests the black material was concluded to be carbon.

Weekly samples of sputum were collected for quantitative determinations. The same procedure was used, except that a half-gallon jar was needed. Only three weekly specimens were obtained during the patient's hospital stay. The last weekly specimen was collected a year later by the patient at home.

A survey of the literature failed to reveal any method for the estimation of carbon in sputum, but there were a number of methods for the determination of carbon in the lungs. Hirsch[1] suggested a colorimetric method. Known quantities of finely divided toluene soot were suspended in liquid petrolatum and compared with suspensions of dried lung tissue after antiformin digestion. Since the size, density, degree of blackness and purity of the carbon particle determines its colorimetric index, we favored a gravimetric estimation of carbon.

1. Hirsch, E. F.: A Method for Graphic Demonstration of Foreign Inorganic Matter and Carbon in the Lungs, J. A. M. A. **66**: 950-951 (March 25) 1916.

Following the method of Klotz,[2] the material was digested three times with 75 per cent antiformin; then alcohol was added and the mixture was centrifugated. The material was again digested with 10 per cent hydrochloric acid and centrifugated. Subsequent washings with acid-alcohol and ether were tried without success for the following reason: Digestion with antiformin at 40 C. for several weeks did not destroy an appreciable amount of the organic matter other than carbon, and only a small percentage of the black material present could be separated by repeated and lengthy centrifugating; the bulk of the carbon remained in colloidal form in the greenish black supernatant liquid. At this point attempts to filter out this carbon by gravity and suction with the finest grades of filter paper were unsuccessful, indicating further that the black material was in a colloidal state. In view of this fact the procedure was modified. The solutions were acidified with concentrated hydrochloric acid and stirred vigorously, thus breaking up the colloid. The mixture was not heated at this point because free chlorine from the antiformin in the presence of hydrochloric acid and heat would have oxidized some of the carbon. This material was washed into 250 cc. centrifuge bottles and centrifugated. The mass in the bottom of the bottles, which consisted mainly of coagulated protein, carbon particles, a small amount of inorganic salts and some fat, was washed repeatedly with distilled water, alcohol and ether respectively, with subsequent centrifugating. After washing the material into a 400 cc. pyrex beaker with 10 per cent hydrochloric acid it was digested over a free flame until the coagulated protein was dissolved. The black insoluble residue was allowed to settle out and washed several times with hot distilled water by decantation. The residue was then digested over a free flame with 200 cc. of a 10 per cent sodium hydroxide solution and filtered through a No. 42 Whatman ashless filter paper previously treated with the alkali, washed, dried and weighed. The paper and residue were washed free from alkali, dried and weighed. The difference was recorded as total carbon plus any acid insoluble salts and silica. The filter paper and residue were ignited in a tared platinum crucible and the ash was subtracted from the dry residue originally weighed on the filter paper, the difference in weight being recorded as carbon. In each case the amount of ash was practically negligible, ranging from 2 to 0.9 mg., of which hardly any was volatile with hydrofluoric acid. This indicated that the very small amount of silica present was of no toxicologic significance.




Weekly sputum specimens.

Four specimens of sputum, each representing as closely as possible the total expectoration from the lungs for a period of one week, were submitted to the laboratory for carbon and silica determinations. The specimen representing the first week was so black that it might easily have been mistaken for ink instead of sputum. The second week it was less black, and the third week a grayish black. The fourth sample collected a year later was dull gray.

### COMMENT

From the history and clinical examination in this case, the following explanation is suggested. The patient was exposed to coal dust for twenty-five years, and in the next four years

2. Klotz, O.: Pulmonary Anthracosis: A Community Disease, Am. J. Pub. Health **4**: 887-915, 1914.

he was engaged in a nondusty trade. The resulting anthracosis was asymptomatic during that time. A relatively short exposure working with an unprotected sand blast was followed by an acute silicosis. The patient's history led us to suspect both pulmonary parenchymal and bronchial changes. The former has been described by many. Chapman [3] reported a fatal case of acute silicosis with large amounts of gelatinous mucopurulent material in the trachea and bronchi, suggesting a fetid bronchitis. In our patient a short rest and a change of occupation were followed by a subsidence of symptoms, except the occasional expectoration of black sputum.

The patient then lost his job. He supported his family by odd jobs that frequently exposed him to wet and cold. In addition his dietary was greatly curtailed, since the family managed to live from his previous savings and irregular income for two years before they sought relief assistance. During this period he had repeated attacks of acute bronchitis and it is difficult to evaluate the factors of exposure and malnutrition. The bronchitis became chronic and increasingly larger quantities of foul sputum were expectorated, so the development of a bronchiectasis was assumed. Clinical examinations made while at the hospital confirmed these suspicions. Adequate postural drainage and a high caloric diet ameliorated these symptoms. The continued betterment for the next year while at home on a liberal diet and the avoidance of exposure (relief assistance) is also significant.

Any irritating dust in the alveoli of the lungs will provoke a catarrhal inflammation. There is considerable controversy concerning the origin and nature of these cells, but they are generally called "dust cells." They have been identified as endothelial cells, alveolar epithelial cells or mononuclear leukocytes.[4] Some of the "dust cells" are phagocytic and engulf irritating dust particles. The body reacts differently toward coal dust than toward silica dust. Mavrogordato [5] believes that the "dust cells" which contain carbon are digested or undergo autolysis, leaving the carbon extracellular. Silica, on the contrary, remains intracellular, the dust cells remaining in groups and later stimulating fibrosis. Silica appears to protect the "dust cells" from autolysis and lymphatic digestion. It would appear that the acute silicosis in this case liberated the extracellular carbon. Recurrent attacks of bronchitis probably provoked a similar reaction.

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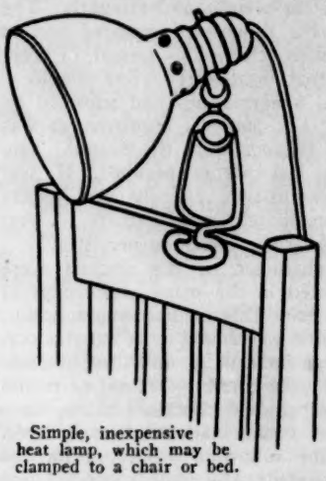
## A SIMPLE, INEXPENSIVE HEAT LAMP

FRANK H. KRUSEN, M.D., ROCHESTER, MINN.

Nearly every physician uses some form of heat lamp as a routine in his office practice. Many practitioners are unfamiliar with the fact that various sources of infra-red, or heat, rays differ in their ability to produce heat penetration. While none of the heat lamps used in medical practice produce very marked penetration of heat, those which contain an "infra-red unit" (heated coil or heated carborundum plate) produce the least penetration. These so-called infra-red units differ not at all in their output of therapeutic heat from the heat elements used in household heaters, which can be obtained for a few cents at any hardware store or even at the five and ten cent store. The only difference between the household heater and the infra-red lamp used in the physician's office is that the former has a wider pan or reflector, which is shaped like a soup plate and which diffuses the heat through the room, while the latter has a cup-shaped reflector which concentrates the heat at a distance of approximately 2 feet (60 cm.) from the lamp. The infra-red units produce a more marked surface heat sensation than do the luminous bulbs, which are also used in the cup-shaped reflectors seen in physicians' offices.

Coblentz [1] in a recent report on the use of light therapy in Europe pointed out that "instead of the fancy, expensive lamps sold to the medical profession, numerous 500-watt electrical lamps (in common use for heat lamps and costing only the equivalent of a few cents) are used by individuals. For this purpose the lamps are provided with clamps for attachment to the beds."

The purpose of this note is to suggest to American fellow practitioners that any simple, well polished cup-shaped reflector attached to a small clamp, as shown in the illustration, in which reflector is placed either a simple heat unit such as is used for the ordinary household heater or, interchangeably with this, a 250-watt or 500-watt tungsten or carbon filament luminous heat bulb, is an entirely satisfactory source of heat energy for local application of heat to the surface of the body. The luminous lamp produces heat radiation which penetrates to greater depth than does radiation from the infra-red unit, and the heat energy does penetrate to the capillary blood-bearing area of the skin and does produce hyperemia. The luminous lamp will be found of more usefulness than the infra-red heat element for producing hyperemia, whereas the infra-red unit, penetrating to less depth, will produce more heat sensation on the surface when this is desired. The various parts for an entire unit of this sort, a reflector, a clamp (which can be attached to the bed or to the back of a chair), a connecting cord, a luminous heat bulb and an infra-red heat element can be purchased almost anywhere in this country for approximately $4.



Simple, inexpensive heat lamp, which may be clamped to a chair or bed.

3. Chapman, E. M.: Acute Silicosis, J. A. M. A. **98**: 1439-1441 (April 23) 1932.

4. Pancoast, H. K., and Pendergrass, E. P.: Pneumoconiosis (Silicosis): A Roentgenological Study, New York, Paul B. Hoeber, Inc., 1926, p. 28.

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# *Special Articles*

## THE PHARMACOPEIA AND THE PHYSICIAN

### AN INTRODUCTION TO A SERIES OF ARTICLES ON THE USE IN THERAPY OF PHARMACOPEIAL SUBSTANCES

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*This is the first of a series of articles written by eminent clinicians for the purpose of extending information concerning the official medicines. The twenty-four articles in this series have been planned and developed through the cooperation of the U. S. Pharmacopeial Committee of Revision and* THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.—ED.

Fundamentally the physician is a therapeutist, for he must treat his patients. In his therapeutic armamentarium drug remedies assume a large importance. It follows that any method for the selection of the best drugs and the establishment of standards to ensure their quality, purity and strength must appeal to him. Hence his interest in the Pharmacopeia.

A series of therapeutic articles is being prepared for publication in THE JOURNAL. It is sponsored by the U. S. Pharmacopeial Convention through its Revision Committee, in cooperation with the editor of THE JOURNAL. Each subject is to be dealt with by one or more authorities, and the emphasis throughout will be on methods of treatment. While it is hoped that by this means the physician's attention will be directed to the high quality of the drugs and preparations of the Pharmacopeia and their ability to meet his most exacting needs in therapy, other measures of treatment will

also be considered. The articles will include advice on methods of administration and the writing of prescriptions for the remedies recommended.

### THE PHARMACOPEIA

In 1820 a group of physicians under the leadership of Dr. Lyman Spalding met in convention and compiled the first Pharmacopeia of the United States. Since then a similar group has met every ten years to revise this work. But, because of scientific advances, technical help became necessary and, because of growth in the number of delegates to the convention, the actual work of revision had to be delegated to a limited number. So today the Revision Committee of the United States Pharmacopeia is composed of fifty men who rank high among contributors not only to biology, pharmacology, serology, therapeutics and clinical medicine but also to botany, pharmacognosy, inorganic chemistry, organic chemistry and practical pharmacy. They serve without pay, for only on such a basis could the talents and continued interest of such men be commanded.

Of this Revision Committee a Subcommittee on Scope, which includes eighteen physicians, has had the duty of determining what substances and preparations should be admitted to the new Pharmacopeia. To the list in the previous Revision it has added fifty-eight drugs and preparations, fifty-four of which are therapeutic agents. But as the trend in therapeutics is not for more drugs to be used in a shotgun manner but for fewer and better drugs to be employed with definiteness, it has deleted 119 articles previously official. It has based its selection on therapeutic merit together with the extent of use in prescriptions, and in determining the latter it has profited from several prescription surveys made in various sections of the country.

The physician has a twofold interest in the Pharmacopeia. Its standards for the drugs and preparations that it recognizes become legal under the Food and Drugs Act, and as a consequence the prescribing of its drugs and preparations gives the physician the best assurance that these will have the quality, purity and strength desired. In addition the titles in the book have been selected from among the available nonpatented and nonsecret remedies by a group of able physicians who have given repeated and careful study and discussion to the therapeutic claims for each remedy. Furthermore, before final decision, a primary list of the drugs selected for admission or deletion was published in the medical and pharmaceutical journals of the country, and the resulting suggestions and criticisms were given serious consideration.

The physician who prescribes U. S. P. remedies can rely on their quality and their applicability in therapy. If he prescribes patented articles he may be chagrined by discovering that his patients renew their prescriptions and treat their acquaintances by buying his prescribed articles by name over the druggist's counter.

With regard to the remedies that he has been employing and does not find in the present Pharmacopeia, the physician must realize that these have been omitted as the result of extensive research which the physician himself would be unable to make. Indeed, he may feel grateful to the revisers for discovering for him that there are reasons for not considering these remedies of the highest rank. Some of the former standbys of the profession have dropped largely from use. However, the physician who has become accustomed to their employment and desires to continue them may still be assured of their legal standardization, for most of them have been transferred to the National Formulary, which, like the Pharmacopeia, is official under the Food and Drugs Act.

The physician may inquire why a number of recently introduced remedies of high merit are not in the Pharmacopeia. The reason is that they are patented. The Pharmacopeia cannot adopt legal standards for a patented article, for the patentee is the sole arbiter for the standards of his patent. The new remedies of this class are given full consideration in the American Medical Association publication New and Nonofficial Remedies. If still deemed worthy when their patents expire, these drugs may receive prompt pharmacopeial standardization through the issue of "interim revision supplements" to the Pharmacopeia, instead of awaiting the next complete pharmacopeial revision ten years hence.

While the function of the Revision Committee is to revise, its methods for obtaining accurate information must result in far reaching benefits. It maintains the U. S. P. Vitamin Advisory Board, the U. S. P. Anti-Anemia Products Advisory Board and the U. S. P. Committee on Cardiac Drugs. All the members of these are of the highest rank in their respective fields.

The Vitamin Board has included Drs. Mendel of Yale (recently deceased), Sherman of Columbia and Nelson of the government vitamin laboratory. This board works with the corresponding international group of the Health Organization of the League of Nations, and partly through its efforts the former multiplicity of vitamin standards has been reduced. It sponsors the standardized samples known as Reference Cod Liver Oil, which, with accurately estimated vitamins A and D and packaged under carbon dioxide gas, is for the use of research laboratories and manufacturers. With the cooperation of some twenty-six experts in this country and abroad the board is now working on the problem of vitamin B preparations.

The Anti-Anemia Products Board, composed of Drs. Minot and Castle of Harvard, Edmunds and Isaacs of Ann Arbor, and Palmer of Columbia, will devise and supervise tests for liver and stomach preparations and similar products. The Committee on Cardiac Drugs, under the direction of Dr. Henry A. Christian, will make bio-assays and clinical experiments to determine the selection and best methods for standardization of drugs that act on the heart.

The physician should be familiar with the official drugs and preparations but he does not need to add the Pharmacopeia to his library, for almost all of its text is concerned with tests for identity, quality and strength, and with methods of assay. But he should know that all current tests and assays have been considered, and that they have been accepted or rejected only after they have been checked again and again in various laboratories, for when accepted they must be able to stand in the courts.

By securing the American Medical Association's latest editions of "Useful Drugs" and the "Epitome of the U. S. Pharmacopeia and National Formulary," he can review the titles and scope and be sure that he is presenting the latest official drugs and preparations.

At the convention of 1820, Dr. Spalding said: "It is the object of a pharmacopeia to select from among substances which possess medicinal power those the utility of which is most fully established and best understood. . . . Its value depends upon the fidelity with which

it conforms with the best medical knowledge of the day." These criteria have governed the Eleventh Revision of the Pharmacopeia, which became official on the first of June 1936. It presents a selection by experts from available drugs and preparations and its standards are the ones recognized in law.

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# THE ADMINISTRATION OF THE SYPHILIS CONTROL PROGRAM

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NOTE.—*The article by Dr. R. A. Vonderlehr and the articles by Dr. Dudley C. Smith and Dr. Joseph Earle Moore, which follow, are part of a symposium on the control of syphilis. The remaining articles, by Drs. Arthur J. Casselman, John H. Stokes and N. A. Nelson, will appear next week.*—ED.

The provisions of the Social Security Act enable health departments throughout the country to strengthen all phases of public health work. These provisions should at the same time permit of a sound development of measures directed against syphilis. In developing state and local programs, health officers are prone to stress those portions which relate to the control of diseases the prevalence of which is now rapidly declining. Some consider duty to have been done by sponsoring the construction of sanitary privies and carrying on a fairly intensive immunization program against diphtheria and typhoid fever. The successful health officer of the future will be judged not only for his accomplishments in the prevention of the common acute communicable diseases but also for his ultimate attainments in minimizing problems detrimental to the public welfare. Progressive health officers have stressed the prevention of the venereal diseases and heart disease, mental hygiene and industrial hygiene for more than a decade.

Syphilis is at present one of the most prevalent of diseases. Its cause, the means of preventing it, and the economic loss and suffering due to it are well known. As the prevalence of other common communicable diseases decreases, additional funds should be made available and further attention given to this most serious of public health problems.

There are certain general administrative points which must be understood if syphilis control work is to be successful. First of all the disease is an insidious one and from the very beginning of the control program the need for a long-term project must be realized. Although success might be attained in a period of months against more acute communicable diseases, years will be required for the successful prosecution of work against syphilis. This fact and a realization of the uncertainty of the continual provision of funds for public health work in the past has undoubtedly been a deterrent to the development of the syphilis control program.

One of the chief reasons why greater success has not been attained in bringing syphilis under control is its unfortunate association with morality. Health officers must take the lead in teaching the public to regard syphilis as a disease and not as a form of moral delinquency. The disease, like many others, is a communicable one and should be so considered by the health officer at all times. The fact that it is spread chiefly through sexual intercourse should be given no special prominence in the application of control measures.

In the general administration of syphilis control work, two factors are of importance: (1) the selection of a well qualified venereal disease control officer with a clear-cut understanding of his duties and (2) the relationship of the venereal disease control office to other activities both within and without the jurisdiction of the health department.

## THE VENEREAL DISEASE CONTROL OFFICER

As in any activity, great personal interest in the specialty is an essential qualification of the health officer specially selected to undertake the control of syphilis. He should be well trained in the practice of medicine and preferably experienced in general health work. He should spend a period of at least four to six months in a venereal disease clinic in order to become familiar with the routine management of syphilis and gonorrhea.

The duties of a properly qualified venereal disease control officer may be classified as administrative, advisory and cooperative. The administrative activities of such a specialist differ little in principle from those of any health officer. Work in the central office must be conducted efficiently. The administrator should know the capabilities of his personnel and the progress that is being made in the various subdivisions of his office. Because of the interdependence of the venereal disease control officer, local health officers and private physicians within the territory under his supervision, it is essential that as close cooperation as possible be established among these individuals. The degree of interest local health officers and private physicians take in the syphilis control program as well as their ability in this special work should be known. This is essential in order that the venereal disease control officer may encourage the cooperation and assistance of qualified workers in conducting the syphilis control program and either stimulate poorly qualified but interested physicians to greater endeavor or discourage them should their incomplete training, personality or lack of interest make them unfit for this type of work.

The successful administrator of venereal disease control work must have the ability to discriminate between poor and worth while projects. This is necessary because the problem is of such magnitude that many methods of attempting to solve the same problem are frequently offered. Limitation of funds and personnel make it essential that the most direct and efficient method be utilized to accomplish a given end. Astute judgment is required not only in the selection of projects but also in choosing personnel.

The advisory duties of the venereal disease control officer in the syphilis control program are manifold. Advice should be given only when requested, but the progressive officer will be able to stimulate an increased demand for advice. The problems requiring consultation, which arise so frequently in venereal disease control work, relate to the diagnosis and clinical management of syphilis, the epidemiology of the disease and the personal behavior of the infected individual. The venereal disease officer should always act impar-

Read before the Annual Conference of State and Territorial Health Officers with the Surgeon General of the U. S. Public Health Service, Washington, D. C., April 13, 1936.

tially and with strict justice. He should deal with personal behavior only when necessary to prevent the spread of syphilis.

The necessity for obtaining the cooperation of the medical profession has already been mentioned. Besides the medical profession, cordial cooperation should be established with health departments in adjacent areas. Persons who are the source of infection, their contacts, or defaulting patients may frequently move to an adjacent state, and it is necessary for the general welfare of the people in the entire country that individuals with communicable lesions be given adequate treatment wherever they may reside. Voluntary agencies are often of real assistance in developing a more intensive program and their cooperation should always be sought. Cooperation with other branches of government is desired, particularly the police department, in the management of recalcitrant cases, and the department of education in developing the informative program among citizens.

### RELATIONSHIP TO OTHER HEALTH ACTIVITIES

*Other Sections of the Health Department.*—The syphilis program under the venereal disease control officer should be coordinated with the communicable disease control work of the health department. This may be accomplished by organizing an office of venereal disease control, which should be very closely associated with the section of communicable disease control, or the syphilis control work may be developed in a subsection under the direct administration of the communicable disease control officer. In either case the venereal disease control work should be conducted as a separate enterprise and directed by a full-time health officer. The immensity of the problem, the highly specialized character of the work, and the peculiar dependence of the program on the physician in private practice make provision for an autonomous unit imperative.

The syphilis control program is likewise closely related to activities of the health department other than the communicable disease control section. For instance, the section on maternal and child care has frequent need for the assistance and cooperation of a specialist in syphilis control. This is true because the prevention of prenatal syphilis is fundamentally almost as important as the prevention of the transmission of early acquired syphilis.

The investigations of the Committee on Evaluation of Serodiagnostic Tests for Syphilis show an urgent need for close association between the venereal disease control unit and the laboratory of the health department. Laboratory tests have become more and more important in the diagnosis of syphilis during the past two or three decades. Because of their widespread and routine use it is essential that such procedures be as accurate as it is humanly possible to make them. The need for serologic check and clinical cross-check of serodiagnostic tests for syphilis becomes increasingly evident and it requires the careful guidance of an expert in syphilis to determine the reliability of a serologic test by comparison with the clinical observations.

The county or district health department is the basic unit of most state health departments. In many states a section of county health work exists. The unit cost of controlling the common communicable diseases will increase progressively as their prevalence decreases. Ultimately a point will be reached when it will no longer be economically practicable to continue aggressive campaigns against such diseases. Optimum conventional procedure will be established. As this point is reached, additional funds will be made available for the solution of more difficult health problems. One of the first should be syphilis control work. For the reasons stated, county and district health departments will in the future show an increasing interest in the control of insidious communicable diseases, the prevention of degenerative diseases, and problems of nutrition. Even now there is frequent need for cooperative and consultative work between the county or district health officer and a well trained venereal disease control officer, but at present a makeshift arrangement often exists whereby some health officer without special training in the control of syphilis and gonorrhea attempts without success to act in such a capacity.

*The City Health Department.*—Perhaps no form of local health work under the nominal supervision of the state health officer has been more seriously neglected than that which has developed in municipalities, yet approximately 55 per cent of the total population of this country lives in cities. It is commonly assumed that most cities have an unlimited supply of funds for health work and that they are wholly independent of the state and surrounding counties. As a matter of fact neither of these assumptions is true.

A close relationship usually exists between the incidence of communicable disease within a city and in the surrounding territory. With syphilis this is particularly true, since under conditions of modern transportation visitors to the city are frequent and the disease may often be carried from urban to rural areas. The converse also is true. At the present time the tendency is for health organizations in the territory surrounding a city to neglect the syphilis control program. Infected individuals seek treatment in the municipality and are too often told that treatment is available only for residents of that city. If an investigation should be made it is certain that a serious condition would be discovered in and around the large cities of most states.

The duty of state and municipal health departments in the program against syphilis is plain. Instead of shifting responsibility and failing to provide adequately for the care of the infected individual, both state and municipal health departments should adopt a more liberal policy. The time has arrived when state health officers should establish a reciprocal arrangement to extend to rural and urban residents alike the full benefit of modern public health organization. An equable agreement will require a real interest in proper coordination of the work and an unselfish devotion to the new principle. Municipal and county health officers must be urged to support and adopt this more liberal conception of duty.

The Social Security Act provides for the extension of public health facilities to all residents of the United States. No distinction is made within this law between residents of urban and rural districts. Municipal health officers should receive their share of the allocations for health work and in turn should make more liberal provision for the public health protection of all residents of the state in which they are located.

*The Medical Profession and Voluntary Organizations.*—The interdependence of health officers and the medical profession in the successful prosecution of a

program against syphilis has been so frequently stressed that it is generally recognized. Not only is the cooperation of the individual physician required but the assistance of an aggressive organized profession is necessary. Health officers should respect the rights of physicians in private practice, who in turn should encourage and approve of the action of the health department in providing adequate treatment for all persons who cannot obtain private medical attention.

The aid of voluntary organizations interested in the improvement of social and economic conditions in the area is also of value. Cordial alliance should exist not only with social hygiene agencies but also with related social organizations and various economic and business groups.

A most helpful step is the adoption of the policy of appointing an advisory committee on the control of the venereal diseases. This committee should include at least the venereal disease control officer, a member of the local medical society, and a member from the voluntary organizations which take an active part in the welfare of the community. Progress will be made only by recognizing that united action is necessary.

### FINANCING THE PROGRAM

Sufficient funds should be provided for the prosecution of syphilis control work. Provisions by the health department should be sufficiently liberal to permit the organization of an efficient program. Such a program may be defined as one which secures for the public adequate protection against the spread of this disease by infected individuals. The program should also include provision for adequate treatment of the individual patient by skilled personnel under maximum conditions of privacy.

No arbitrary system for the allocation of funds is known. The relative frequency with which syphilis occurs as compared to other communicable diseases is an important factor in the allocation of funds but it is not the only factor. It should be used as a measure of the adequacy of financial provision until a comprehensive control program has been developed. At the present time complete programs and adequate financial provision for carrying them out are very rare indeed.

### CONCLUSIONS

1. The syphilis control program should be conducted by a special full-time venereal disease control officer as part of a separate section or subsection of the health department.

2. Great personal interest in the problem and special training in health work and the clinical management of syphilis and gonorrhea should be considered as the most important qualification of the physician who acts as venereal disease control officer.

3. The section or subsection for venereal disease control should coordinate and integrate its activities with other proper sections of the health department.

4. The state health officer should make a special attempt to unify syphilis control programs in adjoining cities and counties.

5. The cooperation of the medical profession and of voluntary organizations is of great importance in the development of syphilis control work.

6. Due regard for the importance of the syphilis problem must be given in financing the program.

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# PRACTICAL EPIDEMIOLOGY OF SYPHILIS

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The epidemiology of a disease includes a study, first, of all the factors having to do with its transmission and, secondly, of all the means available for preventing its being conveyed to others. No attempt is made in this paper to present a complete discussion of the epidemiology of syphilis. Some medical measures practical in their application are outlined.

Syphilis is a rapidly spreading and widely prevalent disease. The United States Public Health Service estimates that there were 518,000 new cases of syphilis in this country in 1934. Syphilis is then rapidly spreading. These new cases added to the older ones certainly make it a widely prevalent disease. History shows, though, that at one time syphilis spread in a more wholesale fashion, affecting seriously by marked external and clinical manifestations large populations. Now it spreads more insidiously but nevertheless surely. There is evidence that it still advances mainly by small epidemics rather than on an even front. This insidious attack along with the infection's association with sex and morals has hindered the application of known medical measures. Stokes [1] has said that syphilis in the human body is like an iceberg, nine tenths below the surface; and this is just as true when the disease is considered from the point of view of general distribution. However, it is possible by using the one tenth above the surface as signals to detect that which is submerged.

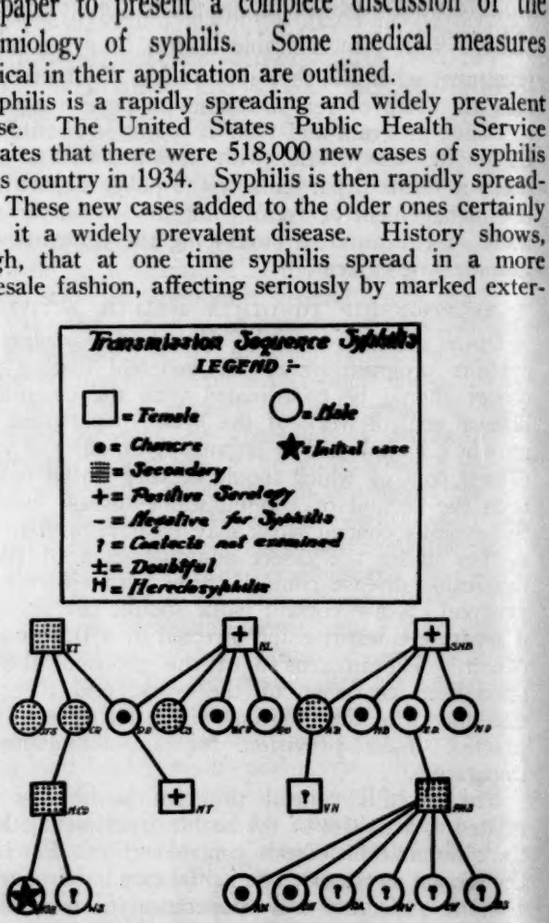



Chart 1.—Result of tracing source cases and contacts beginning with a private male patient with a chancre. Twenty-five names were obtained; nineteen persons were examined and found to have syphilis; six have not been examined by us.

From the University of Virginia Department of Medicine
From the Department of Dermatology and Syphilology, University of Virginia Department of Medicine. The data and results shown are in large measure due to the energy and tact of two former residents in this service, Dr. W. A. Brumfield Jr. and Dr. E. E. Barksdale.

Read in part before the Annual Conference of State and Territorial Health Officers with the Surgeon General of the U. S. Public Health Service, Washington, D. C., April 13, 1936, and at the annual meeting of the American Dermatological Association, Swampscott, Mass., June 2-5, 1936.

1. Stokes, J. H.: Modern Clinical Syphilology, Philadelphia, W. B. Saunders Company, 1934.

The specific cause of this infection is known, many of the properties of the etiologic agent have been determined, its modes of transmission are common knowledge, usable measures for an early diagnosis have been found, and therapeutic agents for quickly making an infected patient noncontagious are available. It would appear to be a simple matter to apply this knowledge, but this has not been done extensively. It is the responsibility of the medical profession to detect those persons with syphilis and administer the sterilizing and curative remedies. The general population has progressed in its sensibleness and desires to a standard which makes it possible to undertake a widespread campaign against syphilis. When the prevention of syphilis is approached objectively, positively and unrelentingly, the incidence of the disease will begin to decrease and finally will be eradicated. This is a worthy and desirable undertaking, probably the major health problem of the present day possible of accomplishment. It is true that a recent popular medical writer [2] sarcastically questioned the desirability of freeing the human race from syphilis, but few will agree with him.

### SEROLOGIC SURVEYS OF POPULATION GROUPS

If the entire population through one generation should be repeatedly examined clinically and serologically for syphilis and every infected person promptly given the minimum standard of modern therapy, the malady could be eradicated. No such action is possible. The approach must necessarily be slower, but the present-day pace should and can be accelerated. Certain groups are now receiving routine examinations and many unsuspected cases are being discovered. This method of detection should become more widespread until eventually the entire population is covered.

**Present popular attitude toward routine serologic tests:** ***"You needn't test my blood. I know it is all right."***

**Desirable attitude:** ***"Everybody should have the blood tested at least every other year."***

**Groups in Whom Routine Serologic Tests for Syphilis Should and Can Be Performed**

Hospital, clinic, office and home patients, physicians and nurses, dentists, servants, food handlers, soft drink dispensers, hotel employees, applicants for marriage certificates, applicants for automobile driving permits, applicants for insurance, students, public carrier employees, industrial employees, criminals, prostitutes, and others.

**Eventually the Whole Population**

Slogans for popularizing routine serologic tests.

Along with this mass examination, facilities for mass treatment must, of course, be made available. A few years ago the U. S. Public Health Service attempted to capitalize in a wholesale way the fact that antisyphilitic treatment will render patients noninfectious. In selected areas it attempted mass sterilization of the Negro population based on extensive serologic surveys. The results and experiences were such that this method of attack can be recommended. The example set by obstetricians, both in the success of teaching propaganda and in reducing the incidence of congenital syphilis, is another recommendation for the method of group serologic surveys.

2. Zinsser, Hans: Rats, Lice and History, Boston, Little Brown and Company, 1935.

### TRACING SOURCE CASES AND CONTACTS

Another way of attacking this transmissible infection is by tracing source cases and the follow up of contacts of syphilitic patients. This is a direct epidemiologic procedure and if pursued intensively and tactfully is effective. The principle of this approach is identical with that used in the control of other infectious diseases. The main difference is that sexual contacts are to be determined. Because of the tendency to secrecy the problem is somewhat difficult, but on the other hand the number of possible sources and contacts are limited, which simplifies the investigation.

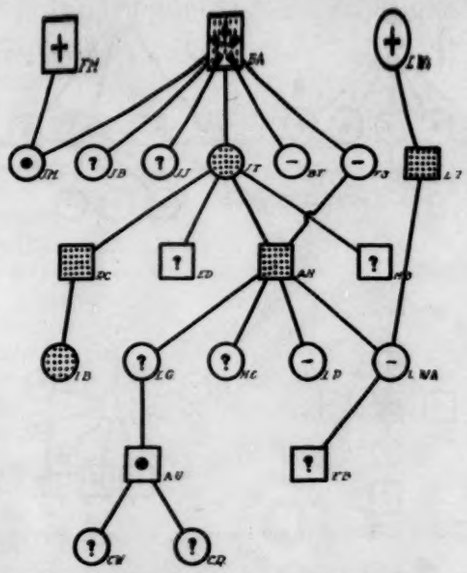


Chart 2.—Result of case finding in a group of Negroes, starting with a female patient with secondary syphilis.

It has been the policy at the University of Virginia Hospital [3] for several years to investigate epidemiologically all early and familial cases of syphilis and any other cases that would seem to warrant scrutiny. This investigation is directed toward ascertaining the identity of the person from whom the patient acquired the disease and the identity of other persons exposed to the same source or to the patient following infection.

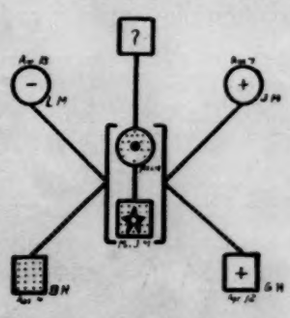


Chart 3.—In this group the husband infected the wife. Three of the four children were found to have acquired syphilis.

During the routine history and physical examination of the patient the fundamental characteristics of the disease are explained. This includes transmission, pathology, complications, standard of treatment, and the probable outcome. Language that the individual patient can comprehend is used. The moral aspects are minimized and the medical phases are emphasized.

3. Smith, D. C., and Brumfield, W. A., Jr.: Tracing the Transmission of Syphilis, J. A. M. A. **101**: 1955 (Dec. 16) 1933. Brumfield, W. A., Jr., and Smith, D. C.: Am. J. Pub. Health **24**: 576 (June) 1934. Smith, D. C.; Brumfield, W. A., Jr., and Barksdale, E. E.: Scientific Exhibit at the Eighty-Sixth Annual Session of the American Medical Association, Atlantic City, N. J., June 10-14, 1935.

Every effort is made to impress the patient that all information obtained is confidential. With the proper build up, almost every patient will give the names and addresses of his sex partners and close associates. After obtaining this information the patient is asked to notify those concerned and advise them to be examined. In addition, a letter is sent to the contacts advising them to be examined. It is remarkable that almost all patients attempt to cooperate fully when

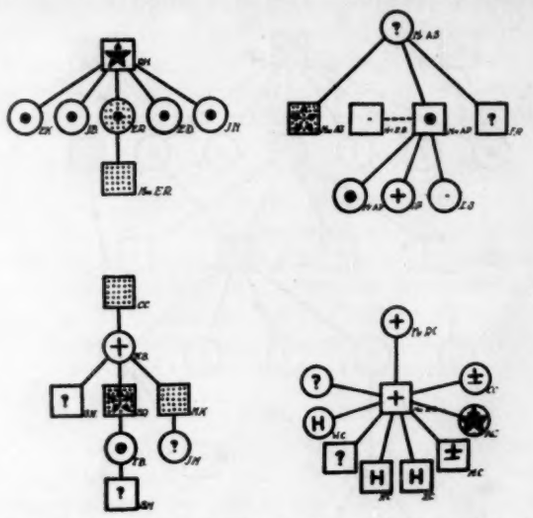


Chart 4.—Several groups of small episodes, one group showing heredosyphilis.

properly approached. The patient himself, in most cases, becomes to some extent a sanitary worker. Every case of syphilis diagnosed presents an opportunity for discovering other foci of infection.

This investigation probably cannot be done successfully by nurses or social workers alone. They, of course, can be of great aid in following up information obtained by the physician. The use of legal measures is sometimes necessary. It has been stated that this type of investigation would be less successful in a large city. On the contrary, rapid cheap transportation, more clinic facilities, social service departments and the like would seem to make it easier.

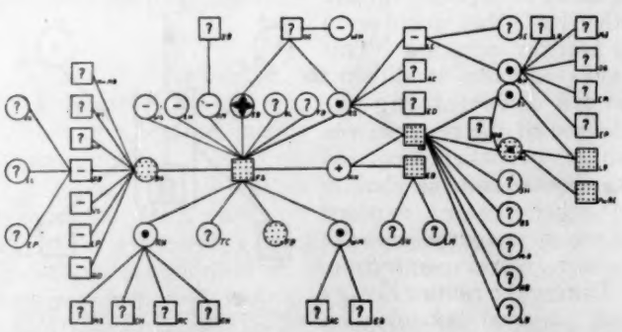


Chart 5.—A large group centering about a small industrial plant employing young men and women. The plant was thirty miles from the clinic. The follow up was entirely by messages of patients and correspondence. Fifty-seven names of exposed persons were obtained; twenty-four persons were examined in our clinic; nine gave negative examinations and fifteen were found to have acquired syphilis.

Other important results of this intimate relationship of patient and physician are the establishment of the patient's confidence in treatment and his education as to proper treatment. He is then more apt to continue treatment regularly, increasing his chance of cure and decreasing the possibility of an infectious relapse. Recently it was reported by the Cooperative Clinical Group [4] that 84 per cent of patients with early syphilis discontinue treatment before they are rendered permanently noninfectious. In our clinic 41.2 per cent of patients with early syphilis, observed during this period (1930-1934 inclusive) of intensive effort directed toward determining source cases and contacts returned for the minimum standard of treatment.[5] This figure is exclusive of patients referred to other physicians or clinics. This was accomplished without the aid of social service or follow-up workers.

Improvement of this general condition is absolutely necessary if efforts to prevent syphilis are successful. The detection of syphilitic individuals, difficult as it is, is just the first step in the campaign. This 84 per cent of known foci of infection must be handled in some way, and the medical profession should work out an effective program. There are many details to be considered, such as education of the physicians, administrators of government and the general population; availability of diagnostic facilities; cost and availability of treatment; management of delinquent patients, and many others. Vonderlehr and his co-workers [6] have outlined such a program, which can be recommended.

TABLE 1.—*Results of Serologic Survey for Syphilis in Negroes in Six Southern Counties* *

| Number Examined | Number Positive | Early Cases† | Number Treated |
|---|---|---|---|
| 33,234 | 6,800 | 206‡ | 5,905 |

* Data obtained through courtesy of the U. S. Public Health Service.
† Period of greatest infectiousness.
‡ This figure would undoubtedly have been larger if it had been possible to determine the infections acquired within two years, the period when contagious relapse is most frequent.

TABLE 2.—*Follow Up and Follow Back of Early Syphilitic Infections and Contacts*

| | Exposed Contacts | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Admissions to Clinic | | | | | Estimated Infected | |
| | | Individuals Represented | Number per Case | Total | | Cases Infected | | | |
| Infected Cases | Named | | | Number | Per Cent | Number | Per Cent | Total Number | No. per Case |
| 207 | 511 | 421 | 2.03 | 171 | 40.6 | 126 | 73.7 | 316 | 1.52 |

Nevertheless the first step in the prevention of syphilis is the detection of infected individuals, and the accompanying charts and tables illustrate something of the method of tracing source cases and contacts, the results and some ideas to be emphasized.

## SUMMARY

Two practical epidemiologic methods of discovering syphilitic patients are (1) serologic surveys of population groups and (2) tracing source cases and contacts.

The physician with patience, tact and energy can markedly decrease the high percentage of patients with syphilis becoming delinquent before the completion of proper treatment.

University of Virginia Hospital.

4. Stokes, J. H., and others: What Treatment in Early Syphilis Accomplishes, Ven. Dis. Inform. **15**: 341 (Nov.) 1934.
5. Heller, J. R., and Smith, D. C., to be published.
6. Vonderlehr, R. A., and others: Recommendations for a Venereal Disease Program in State and Local Health Departments, Ven. Dis. Inform. **17**: 1 (Jan.) 1936.

# DEVELOPMENT OF ADEQUATE TREATMENT FACILITIES FOR CONTROL OF SYPHILIS

JOSEPH EARLE MOORE, M.D.
BALTIMORE

In its relation to the public health, syphilis may aptly be regarded as two diseases, one of which, early syphilis, is infectious and, like tuberculosis and other infectious diseases, requires the attention of public health officers to diminish or prevent its spread; the other, late syphilis, is not a major problem because of infectiousness, but, like cancer, demands the attention of public health officers because of the high incidence of incapacitating disease and death which it causes.

The title assigned me tacitly assumes that treatment facilities at present available in the United States are not adequate for the control of syphilitic infection. In the discussion of this topic it is profitable to start with a definition of terms. What is meant, precisely, by the phrases "adequate treatment facilities" and "the control of syphilis"? As to the former, does "adequate" mean adequate to meet the present demand or adequate for the potential demand? As to the latter, it may perhaps be agreed that the control of syphilis means essentially the same thing as the control of smallpox or any other infectious disease; i. e., its virtual eradication.

A further assumption is involved in the title of this paper: that if treatment facilities were adequate, the control of syphilis would be aided. This is perhaps more nearly fact than assumption. As to early syphilis, it is agreed that the spread of infection can be best prevented not by reformation of the sex morals of a nation or by the forcible isolation of infectious persons but by the early use of the arsphenamines. A single dose of one of these drugs provides a method of destroying surface organisms in a few hours, of healing infectious lesions in a few days, and of abolishing infectiousness with a rapidity not equaled by any method in any other infectious disease. It is, however, true that one or a few doses will not accomplish the permanent abolition of infectiousness, and that indeed to stop with one or a few doses may actually increase the incidence of infectious relapse over that to be expected if no treatment at all is given. To prevent fresh lesions from appearing, to reduce the incidence of infectious relapse to a minimum of 2 per cent or less, at least twenty injections of an arsphenamine plus an equivalent amount of heavy metal, given by the continuous system, are necessary.[1] From the public health standpoint, it seems obvious that, if it were possible promptly to recognize every individual freshly infected with syphilis and to administer this minimum of forty weeks of treatment, the spread of syphilitic infection would be immediately and enormously reduced.

As to late syphilis, it is agreed that most forms of the disease are amenable to symptomatic relief and that progression or relapse may be prevented in the vast majority of cases if the proper form of treatment can be given over a long enough period of time.[2] It seems further obvious, therefore, that if it were possible to recognize all individuals with late syphilis and to administer the optimum amount of treatment, incapacity and death and the economic loss resulting therefrom could also be immediately and enormously reduced.

Whether early and late syphilis are being recognized to the maximum degree possible and whether, when recognized, they are being treated by proper methods and for the optimum length of time are points closely related to a discussion of treatment facilities adequate to meet the actual or potential demand. It is estimated by the United States Public Health Service[3] that annually 1,140,000 persons with syphilis come under treatment for the first time since infection, of whom 518,000 have early and 596,000 late syphilis. This is an incidence rate of 8.4 per thousand of the population. Parenthetically, it may be noted that if the incidence rate of syphilis in this country were the same as in Denmark, we should have only 24,000 new cases annually instead of 1,100,000; or, conversely, if their rate were the same as ours, they would have had 32,000 new cases instead of their actual 700.[4]

Since, from the public health standpoint, we are more interested in early than in late cases, it is pertinent to ask: Do all patients with early syphilis seek medical attention competent to abolish infectiousness? If not, what proportion do seek such competent care and what happens to the remainder?

A definitive answer in exact terms cannot be given to these two questions, but such information as is available indicates that less than half the persons freshly infected with syphilis seek competent medical attention during the early and infectious stages of their illness. Two important reasons for this failure exist. First is the fact that early syphilis is sometimes, perhaps often, symptomless; i. e., the primary and secondary lesions are either completely lacking or so trivial and evanescent as to escape attention. How often this occurs in human beings is unknown and for various reasons is probably impossible of exact determination. There is reason to believe, however, that among syphilitic patients one man in every five and one woman in every three has acquired the disease without knowing it. Obviously, a patient who does not realize that he is ill does not consult a physician. Second, the American Social Hygiene Association has found that "annually more than twice as many individuals sought treatment for venereal disease across drug store counters as came to qualified medical sources in such cities as San Francisco, California, Birmingham, Alabama, Dallas, Texas, and New Orleans, Louisiana. . . . . When casually asked what one should do if infected with a venereal disease, less than one half of the young men so questioned advised going to a clinic or to a medical practitioner for treatment; the remainder suggested some improper type of treatment, either self treatment or that obtainable from the (advertising quack or)[5] drug store, and in some instances advocated that no treatment be sought, stating that the lesion would heal of its own accord."[3]

It is fair to guess, therefore, that instead of a treatment demand from half a million freshly infected patients annually there should be, if all patients with early syphilis came at once to a recognized medical agency, a demand from at least twice as many, or a million annually.

From the Syphilis Division of the Medical Clinic of the Johns Hopkins Hospital.

Read before the Annual Conference of State and Territorial Health Officers with the Surgeon General of the U. S. Public Health Service, Washington, D. C., April 13, 1936.

1. Stokes, J. H.; Cole, H. N.; Moore, J. E.; O'Leary, P. A.; Wile, U. J.; Parran, Thomas, Jr.: Vonderlehr, R. A., and Usilton, L. J.: Standard Treatment Procedure in Early Syphilis: A Résumé of Modern Principles, J. A. M. A. **102**: 1267 (April 21) 1934.

2. Moore, J. E.: The Modern Treatment of Syphilis, Springfield, Ill., Charles C. Thomas, Publisher, 1933.

3. Usilton, Lida J.: Venereal Diseases in the United States, Ven. Dis. Inform. **16**: 147 (May) 1935.

4. Lomholt, S.: Rückgang der Syphilis in Dänemark 1919-1933, Dermat. Wchnschr. **100**: 173 (Feb. 9) 1935.

5. Parenthetical remarks mine.

What of patients with late syphilis? Why do so many patients delay applying for treatment until they have developed late syphilis? Is the annual crop of 600,000 such patients the maximum possible number who could be brought under treatment? The reasons for the delay in applying for treatment are given in the last paragraph—symptomless infection, treatment for early syphilis lacking because the disease was unrecognized, or inadequate because self administered or given by improper medical agencies. The actual demand for treatment of 600,000 new patients annually is far below the potential demand and is probably only a third of the number who might be brought under treatment if there were an organized effort to get them there, as I shall presently show.

The spontaneous demand on present treatment facilities is, according to the Public Health Service data, 1,100,000 new cases annually. The estimated potential demand, which can be readily realized by the application of the relatively simple method of case finding to be presently discussed, is between two and three times as great and for a few years at least could be pushed to 3,000,000 cases annually.

What of the present-day trend of the incidence of syphilitic infection in this country? Is it rising, falling or stationary? Data on this point are available in only a few communities—the state of Massachusetts,[6] the state of Oregon, up-state New York,[7] cities with populations of 100,000 or less, Cleveland, and six counties in the four states of Arkansas, Illinois, Kentucky and West Virginia.[3] In some of these early syphilis is decreasing, in others increasing, over the six year period 1927-1933, resulting in a net decrease for the entire population studied of about 13 per cent. In nearly all these localities, however, the number of patients with late syphilis seeking treatment for the first time has increased, resulting in a net increase, for all stages of syphilitic infection, of 3.4 per cent. In view of the fact that a high percentage of patients fail to seek treatment until the late stages or remain untreated throughout life, Usilton concludes that the lower early syphilis rate cannot be interpreted as evidence of progress in the control of syphilis.

To the factors enumerated which operate to prevent persons infected with syphilis from seeking early and adequate medical care, i. e., symptomless infection, ignorance, carelessness, viciousness and the easy access to quack or drug store treatment, may be added one other factor, which applies to early and late syphilis alike; namely, the ignorance of many physicians of the elementary methods of recognizing syphilis. Unfamiliarity with the darkfield apparatus, a lack of understanding of the proper use or interpretation of serologic tests, an absence of appreciation of syphilis as an infectious disease—these are the blinders which hamper the medical profession.

When syphilis is recognized and brought under treatment, how effective is the profession in keeping it there for the required time? The surveys of the United States Public Health Service[8] show that at any one time 683,000 persons in this country are under treatment or observation for syphilis. Since 1,100,000 patients annually come under treatment for the first time, and since the optimum average duration of treatment for early and late syphilis considered together is about two years, there should be under treatment at any one time, under the present conditions of spontaneous demand, two and a quarter million persons. It is fair to say, therefore, that for the present case load, available facilities are a little better than 25 per cent efficient, and for the potential case load only about 10 per cent efficient. Reduced to their simplest elements, the factors that contribute to this poor showing are (1) the ignorance or carelessness of the treated patient, (2) the ignorance or carelessness of the treating physician, (3) the inconvenience and relative inaccessibility of treatment and (4) the expense of treatment.

The remedies for these several defects in our modern diagnostic and treatment set up seem to me to fall into three main categories: case finding, education, and an expansion and alteration of existing treatment facilities.

### CASE FINDING

Organized case finding, a procedure familiar for years to public health officials and clinicians interested in tuberculosis, is apparently a relatively new idea in syphilis, or at least one that has received no general application. Yet there is available for the detection of syphilis a simple serologic test which is from 80 to 90 per cent efficient in any stage of the disease and far less expensive than the detailed physical examination, roentgenologic study and tuberculin testing so freely utilized in case finding in tuberculosis. Thirteen years ago I[8] showed that in my own hospital about 5,000 syphilitic patients passed yearly through its inpatient and outpatient departments with the fact of their infection unrecognized because of failure to employ the serologic test for syphilis in every inpatient or outpatient admission. Only within the last six months has the procedure been adopted as a routine in every department of this one hospital; and, so far as I am aware, it is now one of only two large hospitals in the country with this regulation. Suppose this routine procedure were in force in all hospitals. In 1935 the United States had 6,246 hospitals with more than 7,700,000 total admissions to their beds alone,[7] not including outpatient departments. If one admits the correctness of the estimate that 10 per cent of the American people are infected with syphilis (an estimate based on sound data) and if each one of these patients admitted to hospitals had had a serologic test for syphilis, some 770,000 syphilitic patients would have been recognized and brought under care.

The uncritical listener will at once reply that since the universal adoption of serologic testing among the occupants of hospital beds would have detected only 770,000 syphilitic patients, and since 1,100,000 were actually detected, we didn't do so badly after all! He loses sight of the fact that very few of the 1,100,000 actually recognized came from hospital beds; 95 per cent of them, if my own clinic is a fair sample, were ambulatory, not bed, patients. If the serologic test were routine in all outpatient as well as inpatient departments, and with the elimination of the possible duplication because some outpatients later become inpatients, at least another million syphilitic patients might have been recognized. Almost two million patients might have been detected in addition to the eleven hundred thousand who were recognized—a total of three million new syphilis patients annually!

To introduce the serologic test for syphilis as a routine in every department of all hospitals is perhaps an unobtainable counsel of perfection; yet it has been

6. Nelson, N. A.: The Decreasing Prevalence of Syphilis in Massachusetts, J. A. M. A. **106**: 105 (Jan. 11) 1936.
7. Hospital Service in the United States, J. A. M. A. **106**: 783 (March 7) 1936.
8. Keidel, Albert, and Moore, J. E.: The Wassermann Reaction in the Johns Hopkins Hospital, Bull. Johns Hopkins Hosp. **34**: 16 (Jan.) 1923.

nearly completely accomplished in one field of medicine, i. e., obstetrics, in which Exner [9] reports that 93 per cent of 268 representative antepartum clinics examine every pregnant woman for syphilis by this method. If it is possible here, with the aim of eradication of congenital syphilis by the treatment of infected women, certainly it should be possible in other branches of medicine with the aim of prevention of infection of the woman!

To what extent would the spread of syphilis be reduced if this method of case finding could be employed universally in persons applying to hospitals for aid, to say nothing of those coming to physicians' offices? The cases recognized over and above those diagnosable clinically would be (1) those patients with early syphilis in whom the infection had been symptomless, or in whom the lesions had been unrecognized or misinterpreted by the examiner; (2) the large class of those with latent syphilis, i. e., with no clinical evidence of the disease, and (3) those with late syphilis whose lesions had been overlooked or misinterpreted. In our own syphilis clinic, these three classes make up 44 per cent of all admissions.

If case finding in syphilis by the method of routine serologic testing is to become an adopted procedure, it will become so by virtue of the efforts of the public health officer and by no other means. He is the person who can point out to hospital officials and private physicians the public health need and who can provide the laboratory facilities to make it economically possible.

With another important method of case finding the public health officer is even more directly concerned; namely, the epidemiologic investigation of contacts and families of infected persons. This method of approach, so familiar in other infections, is equally applicable to syphilis. Only by its use can one detect the ignorant, careless or vicious person who, though infected, escapes routine serologic testing because he does not consult any medical agency for advice.

Organized case finding by these two methods offers a solution of many of the difficulties encountered in getting patients under treatment. If they were generally applied, the demand for treatment facilities would be from two to three times greater than at present.

### EDUCATION

Other speakers on this program are considering the importance of education in relation to syphilis control. In order to avoid infringement on their prerogatives, I must limit my remarks to the importance of education in bringing the infected patient under treatment and keeping him there as long as may be necessary.

The first requirement of the educational program is to educate ourselves. Case finding by the methods outlined will not entirely compensate for medical mistakes in diagnosis, especially of early syphilis. Physicians must be better trained in the principles and technic of treatment so that patients will not be prematurely dismissed from treatment or driven away by technical ineptitude.

So far as the lay public is concerned, the greatest factor in the control of cancer and tuberculosis has been the publicity these diseases have received. Press, magazines, placards, radio, all have made familiar the early symptoms, emphasized the consequences of neglect and the necessity of reputable medical care, and, as for tuberculosis, laid stress on the public health menace. Any adult who can hear or read has been repeatedly told, in brief but telling slogans, that "any lump in a woman's breast may be cancer"; "don't spit; spitting spreads disease"; "beware of the chronic cough; it may be tuberculosis"; "consult your doctor at once if you have so and so." The people are, to use the advertising man's phrase, cancer and tuberculosis conscious.

The dissemination of similar knowledge concerning syphilis has, however, been left almost entirely in the hands of the advertising quack. His pamphlets, tossed surreptitiously into the parked automobile, mix misinformation about syphilis with encomiums of methods to promote waning sexual desire. Legitimate organized medicine and public health officials have done little or nothing to inform the public of syphilis, its prevalence, what it is, what its symptoms may be, how it infiltrates all levels of society, how it attacks innocent women and children, how and where it may be treated, what may be the consequences of neglect. Most laymen know none of these things. It is of course more difficult, because of the delicacy of the sex aspect of the subject, to popularize knowledge about syphilis than about tuberculosis and cancer. It may be necessary to avoid the slogan "A sore on the penis may be syphilis" and to replace it with the alternative "A sore anywhere on the body which refuses to heal may be syphilis. Consult your doctor." But if polite language can be found to tell elderly women that a bloody vaginal discharge may mean cancer, if advertisements concerning halitosis, body odors, feminine hygiene and sanitary napkins are complacently tolerated, surely words can be devised to inform the public about syphilis.

If the people have this information, more of them when infected will consult their doctors, and, of greater public health importance still, more of them will come early and will stay under treatment. An aroused and organized public opinion will aid in the elimination of the quack, charlatan and cultist. Drug store treatment may be at least partially controlled by cooperation between public health officials and the pharmaceutical profession.

### THE EXPANSION AND ALTERATION OF EXISTING TREATMENT FACILITIES

Facilities for the treatment of syphilis are provided by physicians in private practice, who care for perhaps 20 per cent of those under treatment, and by privately endowed charitable hospitals, municipalities and states. The latter agencies are responsible for the approximate 50 per cent of patients who can contribute nothing to the cost of their treatment and for the remaining 30 per cent who can pay something but not enough to finance private treatment. Detailed information as to the total number of free and part-pay clinics provided by all agencies, of the number of new patients admitted to them yearly, of the total number of visits, and of their success in keeping patients under treatment, is lacking. Since this is a conference of state and territorial health officers, it is perhaps worth while to refer very briefly to the contribution which these larger political units are making toward syphilis control. Information is available from forty-eight states and the District of Columbia.[10]

Reporting of venereal disease (including syphilis) is required by forty-six states. The system used is varied, and it is probable that in no state except Massa-

9. Exner, M. J.: Syphilis in Pregnancy, J. A. M. A. **106**: 488 (Feb. 8) 1936.

10. Vonderlehr, R. A.: Personal communication to the author.

chusetts is reporting even reasonably observed by physicians. The requirement of reporting by name or other identifying information not only interferes with compliance with the rule but is a distinct factor in driving patients away from reputable medical agencies into the hands of the quack, to the drug store or to self treatment. Lack of adequate reporting, and the further lack of adequate publicity to the public of the prevalence figures disclosed by such reports, is one cause of public apathy to syphilis and further hampers public health officials in determining the trend of infection. It is to be hoped that under the leadership of the United States Public Health Service a uniform and workable method of reporting may be developed for the entire country.

Forty-six states furnish free diagnostic laboratory service to physicians, which in most cases includes both darkfield and serologic tests. In few states, however, has there been developed a satisfactory consultation service, badly needed for such a complex diagnostic and treatment problem as syphilis. Arrangements should be made in each state for one or more consultation centers, to which patients might be referred by physicians or clinics for diagnostic opinion and treatment advice. These centers should provide specialists in various fields of medicine and expensive laboratory procedures, such as x-ray, otherwise not available.

Only twenty-two states operate or subsidize a total of 511 state controlled clinics for the treatment of syphilis. It hardly needs to be restated that, since these clinics, together with those provided by municipalities and privately endowed charity, are only 25 per cent efficient with the present case load, they will be even less adequate if and when the case load is doubled or tripled by case finding and informative publicity. More clinics are urgently needed. Whether these are provided by state, county or municipal funds or are established or enlarged in privately endowed institutions, the pressure bringing about expansion properly originates with public health officials. I am perhaps an incurable optimist, but I have the feeling that when the magnitude and importance of the syphilis problem is brought home to the lay public there will be a demand for the provision of adequate treatment facilities which the public health officer could not resist if he would.

Twenty-five states provide clinics and on request some or all practicing physicians with free drugs for the treatment of syphilis. This is of course a policy which should be carried out everywhere.

It is generally agreed that the most important factor contributing to the great decline of syphilis in Denmark, Sweden and Great Britain is the provision of free treatment for every infected person who desires it. This is the essential alteration of treatment facilities necessary in this country. It is unquestionably true that in this country many patients prematurely abandon treatment in so-called free clinics because of the constant demand for small fees at each visit. The specter of free treatment for all is one which need not alarm the medical profession, even in these days of heated discussion concerning socialized medicine. Years of familiarity with both clinic and private practice have taught me that the patient who can afford to pay for private treatment will not endure the inconvenience, loss of time from work, long waits, crowding, and possible publicity which attend clinic treatment. Private practice will lose nothing, but syphilis control will gain much, if the policy of free treatment is generally adopted.

There is an analogy between the attitude of public health officers toward the control of syphilis and other communicable diseases comparable to the attitude of the public toward war and peace, now uppermost in the minds of men. It is easy to arouse interest in war and in the acute infectious diseases. They are both dramatically sudden in their onset, dramatically startling in their manifestations, dramatically swift in their course. The measurable end result is victory or defeat, recovery or death. It is more difficult to arouse interest in syphilis and peace. There is nothing dramatic about a disease which drags on for twenty years or more, or about a state of public quietude that lasts forever. People are bored with both of them. But syphilis can be exciting enough to the person who has it; he wishes as ardently that he had never gotten it or that he were cured as does the nation plunged into war that it had been avoided or that it were safely over.

If there were in this country a million cases a year of smallpox, typhoid fever, poliomyelitis, plague, meningitis, Rocky Mountain spotted fever, or any one of a dozen other infections less serious than syphilis, there would be public health war indeed. The public health official would not require to be forced into action by popular panic. If panic over syphilis does not exist, it is in part because the people do not know the facts and in part because of the long drawn out course of the disease.

The more acute infectious diseases are focused in public consciousness by a series of "drives." What is needed for syphilis control is not a "drive," or a series, but sustained effort over many years. Primarily what is needed is an awakening of public health officials to the fact that 12,000,000 patients with syphilis in the United States constitute a challenge demanding the most intelligent thought and the utmost effort.

101 West Read Street.

## Council on Physical Therapy

THE COUNCIL ON PHYSICAL THERAPY HAS AUTHORIZED PUBLICATION OF THE FOLLOWING REPORTS. HOWARD A. CARTER, Secretary.

### B-K INHALATOR ACCEPTABLE

Manufacturer: Bishinger-Koehler Manufacturing Co., Inc., Pittsburgh.

This device consists of a mounting to which may be attached two cylinders, each about 18 inches long, containing a mixture of oxygen and carbon dioxide under high pressure. Connected with the valves is a high pressure gage reading to 150 atmospheres, the purpose of which is to enable the operator to judge how much of the content of a cylinder has been used. The valves are so arranged that one cylinder may be held in reserve while the other is being used, and cylinders may be changed without discontinuance of the operation of the apparatus. From the valve system a small metal tube, capable of withstanding high pressure, leads to an automatic valve which feeds the gas mixture to the patient as it is used. This valve consists of a metallic bellows with sides of balloon fabric or similar material, the tube and bottom of the bellows being connected together by a system of levers. The mixture of oxygen and carbon dioxide enters through a minute opening in the end of a tube the outer shape of which is conical. The lever system is so

B-K Inhalator.

arranged that pressure of oxygen opens this valve with difficulty from the cylinder side. Pressure of the gaseous mixture on the large area of the bellows closes the valve easily. It thus acts simultaneously as a reducing valve and as an automatic regulator of flow. From this valve a flexible metallic tube carries gas to a mouthpiece of celluloid (perhaps cellulose acetate) with an inflatable rubber edge of conventional type.

A relief valve is provided on the fitting that connects the flexible tubing with the mouthpiece. A valve on the bellows allows access of air in case the supply of oxygen should temporarily cease.

The whole is mounted in a substantial fiber trunk, inside which is a packet of tools and an instruction chart attached to the cover, giving directions for operation. Its combined weight is approximately 56 pounds.

This unit was examined in a clinic acceptable to the Council and was found to be well made mechanically.

The Council on Physical Therapy therefore voted to include the B-K Inhalator in its list of accepted apparatus.

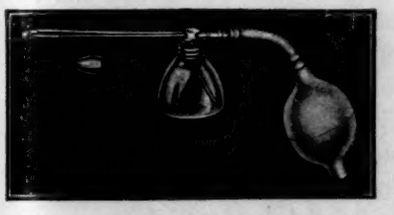
## HOLMSPRAY ATOMIZERS ACCEPTABLE

Manufacturer: T. J. Holmes Company, Inc., Chartley, Mass.

The following atomizers were submitted to the Council for consideration:

*Prescription Atomizer No. 525.*—A nasal atomizer designed to spray aqueous, oily and alcoholic solutions. Vacuum type construction.

*Prescription Atomizer No. 535.*—Designed to spray oily solutions. Volume of spray may be adjusted by a slight turn of the acorn-shaped spray nozzle. Compression type construction.



Holmspray Throat and Nasal Atomizer, No. 600

*Prescription Atomizer No. 545.*—Leak proof, designed for oily solutions. Adjustable spray feature. Compression type construction.

*Nasal Atomizer No. 575.*—Designed to spray aqueous, alcoholic and oily solutions. The liquid tube of this atomizer may be removed for cleaning.

*Throat and Nasal Atomizer No. 585.*—Produces a fine, fluffy spray, suited for ephedrine solution. Amber colored bottle, with bent tube to take up last drop of solution. Volume of spray may be regulated by slight turn of the nozzle.

*Throat and Nasal Atomizer No. 600.*—Equipped with adjustable swivel tip. Sprays aqueous, oily and alcoholic solutions. Swivel tip easily removed for cleaning purposes. Vacuum type construction.

*Throat and Nasal Atomizer No. 600-G.*—Same as Model 600, except that it is equipped with a removable glass liquid tube.

*Atomizer No. 602.*—Same as No. 600, except that it is supplied with an extra amber colored bottle, which makes it possible to distinguish between two solutions and to protect solutions sensitive to light.

*Throat and Nasal Atomizer No. 602-G.*—Same as 602, but has removable glass liquid tube.

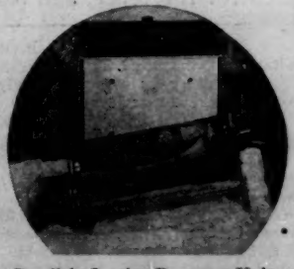
*Nonspil Throat and Nasal Atomizer No. 612.*—Designed to handle all forms of sprays, aqueous, oily, alcoholic, and silver solutions. Equipped with glass liquid tube and an adjustable spray regulator. Air-tight, clog-proof and leak-proof features which guard against deterioration and make it possible to carry atomizer without spilling.

*Nonspil Nasal Atomizer No. 611.*—Nasal atomizer, having same features as No. 612. Air tight, clog proof, and leak proof.

In view of the satisfactory results obtained with these units, the Council on Physical Therapy voted to include the Holmspray Atomizers in its list of accepted apparatus.

## CORRECTION

**Burdick Suction-Pressure Unit.**—In the report of acceptance for the Burdick Suction-Pressure Unit (THE JOURNAL, August 1, p. 354), inadvertently the wrong illustration was published. The accompanying illustration is the proper one. Furthermore, the last sentence in paragraph three, reading "Pressures between —80 and —20 mm. of mercury may be obtained," should read "Pressures between +80 and —120 mm. of mercury may be obtained."



Burdick Suction-Pressure Unit.

# Council on Pharmacy and Chemistry

## NEW AND NONOFFICIAL REMEDIES

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION.

PAUL NICHOLAS LEECH, Secretary.

### ANAEROBIC ANTITOXIN (See New and Nonofficial Remedies, 1936, p. 360).

Lederle Laboratories, Inc., Pearl River, N. Y.

*Tetanus Gas-Gangrene Antitoxin, "Globulin-Lederle-Modified."*—A polyvalent antitoxin prepared by immunizing horses against the toxins of Bacillus tetani (Cl. tetani), Bacillus perfringens (Cl. perfringens) and Vibrion septique (Cl. oedematis-maligni). The toxins are individually prepared in suitable broth mediums grown aerobically after inoculation with anaerobically grown cultures. Some horses are immunized with injections of but one toxin, while others are immunized against several, simultaneously. When trial bleeding tests indicate that horses have achieved a suitable antitoxic potency, aseptic bleedings of plasma are made. This product differs from tetanus-gas-gangrene antitoxin refined and concentrated-Lederle chiefly in the method of refinement. According to the manufacturer, the process of refinement is based essentially on a controlled method of selective digestion of the proteins of the immune horse blood with pepsin. As a result of this process, up to 90 per cent of the coagulable protein may be digested, a small portion is precipitated, and the remainder, a pseudoglobulin fraction, is purified first by ordinary filtration and then by ultrafiltration and dialysis. The resultant solution is sterilized and standardized the same as antitoxin solutions obtained by the usual "salting out" methods. Tests for the content of tetanus antitoxin, perfringens antitoxin and Vibrion septique antitoxin are made according to the methods described by the National Institute of Health. The product is marketed in packages of one syringe containing one prophylactic dose and one vial containing one prophylactic dose, stated to represent tetanus antitoxin 1,500 units, perfringens antitoxin 2,000 units and Vibrion septique 2,000 units.

*Dosage.*—Prophylactic: the contents of one syringe or vial within twelve hours of the injury. If there is still further danger of infection, this may be repeated in five to seven days.

*Gas-Gangrene Antitoxin (Polyvalent) without Tetanus Antitoxin, "Globulin-Lederle-Modified."*—A polyvalent antitoxin prepared by immunizing horses against the toxins of B. perfringens (Cl. perfringens), Vibrion septique (Cl. oedematis-maligni). B. oedematiens (Cl. oedematiens), B. sordellii (Cl. sordellii) and B. histolyticus (Cl. histolyticum). The toxins are individually prepared in suitable broth mediums grown aerobically after inoculation with anaerobically grown cultures. Some horses are immunized with injections of but one toxin, while others are immunized against several, simultaneously. When a potent antitoxic serum (as indicated by potency tests applied to trial bleedings) is obtained, aseptic bleedings of plasma are made. This product differs from gas-gangrene antitoxin (polyvalent) without tetanus antitoxin-Lederle chiefly in the method of refinement. The process of refinement is based essentially on a controlled method of selective digestion of the proteins of the immune horse blood with pepsin; as a result of this process, up to 90 per cent of the coagulable protein may be digested, a smaller portion is precipitated, and the remainder, a pseudoglobulin fraction, is purified first by ordinary filtration and then by ultrafiltration and dialysis. The resultant solution is sterilized and standardized the same as antitoxin solutions obtained by the usual "salting out" methods. Tests for the content of perfringens antitoxin and Vibrion septique antitoxin are made according to the method prescribed by the National Institute of Health. B. oedematiens (Cl. oedematiens) antitoxin is tested according to the method prescribed by the Commission of Biological Standardization of the League of Nations in August 1934. The B. histolyticus (Cl. histolyticum) and B. sordellii (Cl. sordellii) antitoxins are tested for potency by injection into mice of serial dilutions of the antitoxin with definite amounts of the respective toxins, the M. L. D. of the toxins having previously been determined on mice. The unit of B. histolyticus (Cl. histolyticum) is defined as that amount which will neutralize 100 M. L. D. of B. histolyticus (Cl. histolyticum) toxin for a 20 Gm. mouse; the unit of B. sordellii (Cl. sordellii) antitoxin is defined as that amount which will neutralize 1,000 M. L. D. of B. sordellii (Cl. sordellii) toxin for a 20 Gm. mouse. The product is marketed in packages of one vial containing one therapeutic dose, stated to represent perfringens antitoxin 10,000 units, Vibrion septique antitoxin, 10,000 units, oedematiens (Novyi) antitoxin 200 units, and sordellii antitoxin 200 units.

*Dosage.*—Therapeutic: for tetanus and gas gangrene, an initial intravenous injection of one to four minimum therapeutic doses; supplementary injections may be given in from four to six hours or as soon as they are indicated by the symptoms.

### ANAEROBIC ANTITOXIN (See New and Nonofficial Remedies, 1936, p. 360).

Mulford Biological Laboratories, Sharp & Dohme, Inc., Philadelphia and Baltimore.

*Tetanus Gas-Gangrene Antitoxin Mixed-Mulford.*—An antitoxic serum prepared by immunizing horses with gradually increasing doses of the toxins of Cl. tetani (B. tetani), Cl. Welchii (B. perfringens), and Cl. oedematis-maligni (Vibrion septique). After the desired degree of potency is obtained, the horses are bled, the plasma is separated and the serum is prepared in a manner similar to that used for other antitoxic serums. Marketed in packages of one ampule-vial and one syringe containing 1,500 units Clostridium tetani antitoxin, 2,000 units Clostridium Welchii antitoxin, and 2,000 units Clostridium oedematis-maligni antitoxin.

*Dosage.*—For prophylaxis, the contents of one syringe or ampule injected subcutaneously in a single dose. To maintain the antitoxic titer of the blood, the dose is repeated on the third or fifth day.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, SEPTEMBER 5, 1936

## BRINGING SYPHILIS INTO THE LIGHT

For centuries public discussion of syphilis has been submerged largely because of esthetic considerations. Recently this policy of suppression has itself attracted notice because broadcasting companies have preferred to keep the word "syphilis" and the subject "off the air." Great indignation has been expressed in public health circles. Nevertheless newspapers and magazines have been equally reticent to make any mention of syphilis except under the circumlocution of "a social disease." The great majority of men and women who have mentioned the subject at all have spoken of it as "a blood disease" or, among the less cultured, as "a bad disease."

Physicians are accustomed to face disease frankly and to a great extent have divorced the so-called venereal diseases in their thinking from social and moral questions. The real trouble goes beyond the radio and the press, which no doubt reflect the attitude of the average adult. The average man and woman still shrink from the knowledge that syphilis is a leading cause of deaths which are usually attributed to heart disease, diseases of the nervous system and other chronic diseases.

Several metropolitan newspapers, cited by Pinney [1] in a recent contribution, have not only opened their editorial and news columns and even their headlines to the mention of the word syphilis but have definitely enlisted their influence against the disease through series of featured articles. Parran [2] has said that the conquest of syphilis may be the next great step in progress against endemic pestilence. In this battle the part played by the medical profession is of the utmost importance. The best weapon against syphilis is the prompt, adequate and persistent treatment of the acute case and of the syphilitic pregnant woman. This is the function of the physician. The public health official must do his part by searching out the foci of infection. Syphilis has been shown to be a disease the endemic character of which is expressed largely through groups of limited epidemics frequently traceable to one or at the most a few infected persons. Between the discovery program of the health officials and treatment by physicians, the conquest of syphilis is an imminent possibility. In this conquest the natural cooperation that ought to exist between the medical profession and public health agencies will be demanded to the fullest extent.

1. Pinney, Jean B.: New Brooms and Old Cobwebs, J. Social Hygiene **22**: 145 (April) 1936.
2. Parran, Thomas: Health Security, Am. J. Pub. Health **26**: 329 (April) 1936.

## MILK NOT POTENT FOR CEVITAMIC ACID

Recent studies of the vitamin C in cow's milk have suggested that this food may actually be a significant source of the antiscorbutic factor; [1] hence it is interesting to inquire how much milk would have to be ingested to supply the total human needs for cevitamic acid. Göthlin [2] has estimated that for a 60 Kg. man from 19 to 27 mg. of crystalline cevitamic acid constitutes the minimum protective dose (from 0.31 to 0.45 mg. per kilogram). More recently Everson and Daniels [3] have made an exact quantitative study of the vitamin C retentions of three preschool children: with intakes up to 7.5 mg. per kilogram of body weight, retentions of the antiscorbutic vitamin paralleled ingestions, whereas excess quantities up to 12 mg. had no significant influence on the amount retained. The largest quantity, over 4 mg. per kilogram, was retained by the youngest child, suggesting that young tissues may need more of this factor than those only slightly older. If maximum retention is an exact criterion of the requirements of an organism for cevitamic acid, a total intake for such children would necessitate between 113 and 143 mg. daily. No direct study of the needs of infants is yet available, but by indirect means an approximation can be made. A curative dose of natural or synthetic cevitamic acid of from 30 to 50 mg. daily for infants with acute scurvy has been used successfully in many cases and a prophylactic dose of 10 mg. has been suggested.[4] By an examination of the amounts of vitamin C reported in human milk,[5] the size of a protective dose for infants may be estimated, for breast-fed infants do not develop scurvy even in its latent form.[6] Neuweiler [5] has asserted that human milk furnishes an average of from 4 to 7 mg. of cevitamic acid per hundred cubic centimeters, five or six times the amount in the cow's milk used for reference, and one-tenth the quantity in lemon

1. Whitnah, C. H., and Riddell, W. H.: Milk as a Source of Vitamin C, Science **83**: 162 (Feb. 14) 1936.
2. Göthlin, G.: Human Daily Requirements of Dietary Ascorbic Acid, Nature **134**: 569 (Oct. 13) 1934.
3. Everson, Gladys J., and Daniels, Amy L.: Vitamin C Studies with Children of Preschool Age, J. Nutrition **12**: 15-26 (July) 1936.
4. Bell, A. D. C.: Infantile Scurvy Treated with Synthetic Ascorbic Acid, Lancet **1**: 547 (March 9) 1935. Svensgaard, E.: Infantile Scurvy Treated with Ascorbic Acid, ibid. **1**: 22 (Jan. 6) 1934. Wentzler, E.: Heilung eines klassischen Falles von Möller-Barlow durch Cebion (reine Ascorbinsäure), Merck, Monatschr. f. Kinderh. **59**: 451, 1934.
5. Neuweiler, W.: Ueber den Gehalt der Frauenmilch an Vitamin C, Ztschr. f. Vitaminforsch. **4**: 39 (Jan.) 1935. Selleg, I., and King, C. G.: The Vitamin C Content of Human Milk and Its Variations with Diet, J. Nutrition **11**: 599 (July) 1936.
6. Wachholder, K.: Die Versorgung des Säuglings mit Vitamin C, Klin. Wchnschr. **15**: 593, 1936.

juice, while Selleg and King [5] have reported an average of from 5.5 to 8 mg. per hundred cubic centimeters during the first few weeks of lactation, thus supplying to the nursing infant from 40 to 50 mg. of cevitamic acid daily. Either the needs of the infant are less than those of the preschool child, or protection of the infant against scurvy may be assured on quantities less than the amounts needed for maximum retention in the preschool child.

If milk were to serve as the sole source of vitamin C and if, as used by the consumer, it contained as much of this factor as Whitnah and Riddell found (25.9 mg. per liter), a 60 Kg. man would need to consume for optimal protection considerably more than a liter daily, a preschool child would be obliged to drink over 4 liters daily for maximum retention of cevitamic acid, and a nursing infant would need almost 2 liters of cow's milk of the potency described to obtain the same quantity of vitamin C as its mother's milk would have furnished.

Though it has been shown that fresh and even pasteurized milk can now be secured having a content of cevitamic acid larger than formerly, such milk cannot be considered a rich source of the antiscorbutic factor. This food does therefore contribute cevitamic acid to the diet but, because of a probable reduction in potency under ordinary home and hospital conditions, cow's milk should not be depended on to supply the entire human needs for vitamin C.

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## BEJEL—NONVENEREAL SYPHILIS

From the clinic of the American Mission at Deir-ez-Zor, Syria, comes a series of contributions by Hudson and his collaborators [1] on a form of syphilis, known as "bejel," found among the Arabs of the middle Euphrates valley. The evidence for believing that bejel is a purely nonvenereal form of syphilitic infection lies along four lines: (1) The Bedouin villagers are prevented from sexual promiscuity by geographic, economic and social barriers; (2) the Bedouins, large numbers of whom have been treated in the clinic, are free from venereal lesions and diseases; (3) the Bedouins say that there is no promiscuity among them and attribute the widespread propagation of bejel in their communities to infection through innocent contact, usually in childhood, and (4) experience with the clinical course of bejel confirms the fact that it is a nonvenereal community disease of the Bedouins acquired during childhood.

The population studied is distributed for the most part along the middle Euphrates River, its tributary the Khabur River, and a semiarid region known as the Syrian desert. The people are insulated from contacts with the outside world to a remarkable degree. The settled population of the region numbers about 200,000, of which 195,000 are indigenous Moslem Arabs. The Christian population numbers about 5,000 and has little social significance. The Moslems can be divided into townsmen, constituting about 50,000 of the group, and the Bedouins, of whom about 132,000 live in small mud villages along the banks of the Euphrates River and 13,000 live similarly along the Khabur River. The Moslem Arabs have long given syphilis two names, depending on the source of the infection. In the towns the contraction of syphilis through venereal contact is referred to as franghi (the disease of the Franks, or foreigners), whereas childhood infection among the townspeople is given the Bedouin name of bejel. The Bedouins, however, refer only to bejel, which has the connotation of a childhood exanthem and carries with it no sense of venereal exposure.

In reviewing the records of 8,000 consecutive new admissions to the clinic, data for the statistical study of 2,617 parents were obtained. These fathers and mothers were distributed in three social groups, about 500 being Christians, 1,000 townspeople and 1,000 Bedouins. They were married adults of all ages, but most were within the childbearing decades. The average ages of the three groups showed no material variation. Consideration of the positive serologic reactions, darkfield examinations, histories and clinical observations led to the conclusion that the incidence of syphilis in the Bedouins was 90 per cent, in the townspeople 35 per cent, and in the adult Christian population between 10 and 12 per cent. In spite of this there was no marked difference between the three groups in the average number of pregnancies or percentage of living children born. In fact, the incidence of miscarriage was definitely lower among the Bedouins than among the other two groups, which in turn were about equal in this respect. The evidence for the nonvenereal nature of bejel rests also on its apparent epidemiology. Recognizable primary lesions, such as are found in the venereal form, are practically never seen in the Bedouins. However, the Bedouin method of supplying drinking water for the family offers opportunity for the transfer of spirochetes and probably determines the usual site of the earliest lesions. A child with bejel does not usually show much constitutional change, and the children are reputed never to die of bejel. The active lesions on the mucous membrane of the oral cavity swarm with spirochetes having all the characteristics of Spirochaeta pallida. Furthermore, the patronage of prostitution and the incidence of gonorrhea lend further corroboration to the acceptance of bejel as a nonvenereal disease. Among the Christians the patronage of prostitution exists to a degree closely comparable to that in the West and exists to some degree among the townspeople. The primitive Bedouin, however, has a highly developed sense of sexual propriety which the closely knit clan life of the community

1. Hudson, E. H., and Crosley, Susan S.: The Influence of Bejel on the Second Generation, Brit. J. Dermat. **48**: 288 (June) 1936. Hudson, E. H.: Bejel: Nonvenereal Syphilis, Arch. Dermat. & Syph. **33**: 994 (June) 1936. Hudson, E. H.: Syphilis in the Euphrates Arab, Am. J. Syph. **16**: 447 (Oct.) 1932; Syphilis in the Euphrates Arab, ibid. **17**: 10 (Jan.) 1933; Reaction to the Presumptive Kahn Test in Patients with Bejel (Nonvenereal Syphilis), Arch. Path. **21**: 727 (June) 1936.

still preserves. The statistics for gonorrhea were even more conclusive. Of the ninety-eight patients with gonorrhea seen among the 7,000 new patients admitted to the clinic, fifty-five were Christians, forty-one were townsmen and only two were Bedouins. The records of the clinic do not show any Bedouin women with gonorrhea or with any of the sequelae of gonorrhea.

The question of the congenital transmission of bejel was of course closely studied. It was believed that children are usually born free of the disease for several reasons: The classic picture of congenital syphilis is rarely seen in Bedouin infants. There is a definite contagious element in bejel; babies and young children do not present manifestations of the disease until they have been handled and fondled by older children who have open lesions. Bedouin children lack such important manifestations of the congenital disease as interstitial keratitis, hutchinsonian teeth and eighth nerve deafness. Children who have "not yet" had bejel have a negative Kahn reaction. Finally, it was not infrequently necessary to treat a father or mother who contracted bejel from their children. It seems probable, therefore, that syphilis in this form is rarely transmitted prenatally or congenitally and that when propagated under epidemiologic conditions similar to yaws is no more likely than that disease to affect the second generation.

The extensive studies of venereal and nonvenereal syphilis existing side by side in an exceedingly large percentage of the population indicate graphically the still incomplete knowledge of the syphilis problem. It would be especially interesting to know by what route and in what form syphilis reached this isolated community.

## Current Comment

### THE PHARMACOPEIA AND THE PHYSICIAN

The new Pharmacopeia, the eleventh revision, became official in June 1936. The preparations included in the Pharmacopeia for use in the diagnosis or treatment of diseases were selected by the Subcommittee on Scope, which included many prominent physicians. In order that doctors may have easily available a reference to the products included in the Pharmacopeia and also to their manner of use, a special series of articles has been prepared suggesting the ways in which these medicines may be prescribed in the treatment of disease. The series of articles, which begins in this issue of THE JOURNAL, has been developed through cooperation by the Committee of Revision and the Board of Trustees of the Pharmacopeia with THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. In order that the suggestions may be as useful as possible, the writers of the articles have not been restricted to the use of official medicines if in their judgment other therapeutic agents seem to be more useful. It is proposed to publish these articles at frequent intervals until the entire series is completed, at which time the articles will be assembled in book form and be made generally available at as low a price as possible. The purpose of this series is to encourage the use of Pharmacopeial and other well established remedies rather than the use of unestablished and unwarranted proprietary preparations.

### OSTEOPATHY IN ENGLAND

Last year, after an extensive investigation of osteopathy with a view to official recognition in Great Britain, those who were seeking official recognition voluntarily withdrew their application. The withdrawal followed an extensive presentation of their case with an equally adequate presentation by those who sought to show the unscientific character of osteopathic manipulation. The hearings were fully reviewed in the columns of THE JOURNAL during their progress. However, osteopathy and the associated cults are not idle in promoting their claims. Almost any citizen who secures the limelight, from applicants for the presidency to those in lesser positions, is said sooner or later to be a regular adherent of osteopathic practice and to submit himself and his family at regular intervals to osteopathic adjustments. In most instances these claims are not justified. A few weeks ago a periodical called *News Week* indicated that the new king of England had also selected an osteopath and that Sir Morton Smart, a well known orthopedic surgeon, had been selected for the position. Quite promptly thereafter Sir Morton Smart received the following letter from Oakley Smith, president and founder of the Chicago School of Naprapathy:

Honorable Sir:—

Ever since a blind Osteopath—a graduate of the first class of the British College of Osteopathy—paid us the honor of visiting our classes here in America, I have had a rather unusual interest in the strides of Osteopathy in England.

In this week's issue of "NEWS-WEEK" I have read the following:

" . . . Before leaving for France, the King created two new posts. He made his personal pilot, Lt. Edward (Mouse) Fielden, Captain of the King's Flight.

Sir Morton Smart, osteopath to lesser Britons, became Manipulative Surgeon to His Majesty."

If you feel like it I should be very happy to have a line from you concerning the accuracy of this item and indicating, if you still feel like it, something of the duties which will fall upon you because of your high post.

Sincerely,

OAKLEY SMITH, D.N.

The letter disturbed Sir Morton Smart considerably. He calls attention to the following statement, which has been published under his own signature in British newspapers:

I have consistently pointed out ever since osteopaths came to this country from America that the pathology of osteopathy as set out by osteopaths is without any scientific basis, and is totally opposed to the pathology of manipulative surgery. If the osteopathic conception were founded on scientific reasoning and supported by scientific evidence, it would be necessary in the interests of the community completely to reorganise the medical education in every country in the world.

Incidentally, Oakley Smith is not even an osteopath. The naprapaths would certainly not assert that disease was due primarily to pressure of bones of the spine

on nerves coming out between the bones. They feel, instead, that disease is caused by the actions of ligaments which pull the bones of the spine on to the nerves. "You pays your money and you takes your choice."

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# *Medical Economics*

## MEDICAL SERVICE FOR COLLEGE STUDENTS

Approximately 1,000,000 persons, aged from 17 to 24, attend the institutions of higher education in the United States for from four to six or more years. During that period a large percentage of these students receive medical care and instruction in hygiene under a specialized form of organization—the student health service. About 90,000 students who go out from the colleges of this country every year will be leaders in society and will be expected to exemplify their health training as well as their mental education. These graduates constitute one of the most influential groups which the medical profession can reach.

In the interest of establishing some fundamental principles that might be accepted and applied in the correct provision of medical care to this section of the population, the Board of Trustees requested that a study be made of student health services in all leading colleges in the United States. The conclusions of the report[1] are as follows:

1. There has been, during the last decade, a steady increase in the number of institutions maintaining student health services. The trend in the student health movement is definitely toward a single department for the administration of the continuously expanding personal medical services and health activities.

2. Conclusions pertaining to the financial advantages or disadvantages of an organization of medical services for students are rendered dubious by the inadequacy and inaccuracy of the financial records for student health services. The reported cost per student is not appreciably less than the cost for similar services in the private purchase of medical and hospital care.

3. There appears to be a surprisingly large amount of capital invested in buildings and equipment devoted to health and medical services for students. A few health services have shown that student medical care plans can be operated effectively and economically without large investments in buildings and equipment by utilizing the medical agencies and facilities of the community.

4. There seems to be a general tendency to develop health and medical services in colleges and universities on an institutional rather than a geographic basis. The extension of student health services into comprehensive medical care plans disrupts the professional practice of medicine into a system of institutional medical enterprises. Under such plans the patient is considered as a member of a restricted cultural group rather than as a human being subject to his entire environment.

5. There is a growing belief that the place of the student health service in the community medical scheme should be that of an agency to supervise the health of students and to teach health standards but in all instances to use the community's health resources in a manner approved by the medical profession.

6. Neither the organization nor the conduct of student health services appears to have followed any generally accepted principles or objectives except to provide students with some sort of health instruction and variable forms and degrees of medical advice and care. The essential pedagogic and medical factors in the health program seem to have suffered because new activities were adopted by student health services without careful investigation of their usefulness and largely to advance athletics.

7. There seems to be evidence to show that the health education of students, which is presumably the primary function of a student health service, has not always been so effective as might be expected of institutions of higher learning. The health education program, which should enable college students to acquire health principles and hygiene practices that will influence public opinion and social custom for the betterment of human health, has been neglected because of unnecessary emphasis on the treatment and management of illness among the students.

8. A universally accepted measure of performance or accomplishment by which the programs and benefits of student health services may be judged has not been evolved. The lack of a proper method of appraisal has permitted a confusion of clinical and health educational activities to the detriment of the more widely beneficial education program. The evaluation of student health services may be made possible by properly prepared health records and health tests.

9. It appears that a large percentage of universities and colleges are actually engaged in the practice of medicine in varying degrees. The successful operation of a few student medical care plans in accordance with the ethical principles of the medical profession indicates that there are no insurmountable obstacles to operating other similar student health services.

10. The segregation of a section of the medical profession by student health services under standards built on a compromise between the ideals of medicine and the interests of educational institutions is proving harmful to the medical profession and to the educational institutions alike. The division within the medical profession reduces its influence in molding the standards and ethics of student medical care plans into a form that will best serve the prevention and cure of disease.

11. The number of instances in which a practical cooperative arrangement has been effected between the college and the county medical society of the college community for the medical care of students seems to be lamentably small. It does not appear likely that the health education objectives of a student health service will be achieved until student health services harmoniously cooperate with the medical profession.

The possibilities of these student medical care plans for good or for bad in the medical field are far reaching and the course they take will depend on how much leadership the medical profession assumes. To this end it is important that each county medical society in every community where there is an institution of higher education should have an active committee devoted to a study of the problems of student health services. This committee should be in close and continuous contact with the administrators of the educational institution to keep all medical subjects in accordance with professional standards. Furthermore, wherever it is possible to secure the cooperation of school administrators, the county medical society should have complete control of all the strictly medical activities necessary to satisfy the needs of the educational institution and its students. From the entrance physical examination to the major surgical procedure, all medical relationships with each student should be performed in agreement with ethical practices as stipulated by the medical society. The method or form of organization to accomplish this cooperation can be arranged by the local institution and the local medical society.

1. University and College Student Health Services, Bureau of Medical Economics, American Medical Association, Chicago, American Medical Association, 1936.

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**The Expert and the Pseudo-Expert.**—Years ago Lawrason Brown said that the specialist could be distinguished from the general practitioner by the fact that the specialist when he examined the lungs made the patient cough, the general practitioner did not! For the past quarter-century the graduates of every first-class medical school in the United States have been taught the importance of this maneuver. Today the true expert is distinguished, first, by an abiding faith in inspection, palpation, percussion and auscultation and, second, by a strong conviction that the roentgenogram is best interpreted in the light of clinical impressions. The pseudo-expert is recognized, on the one hand, by his contempt for the stethoscope, a contempt which varies directly with his ineptitude in its use and, on the other hand, by a childlike faith in his own clinical deductions from the roentgenogram.—Waring, J. J.: The Vicissitudes of Auscultation, *Am. Rev. Tuberc.* **34**:1 (July) 1936.

# Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION AND PUBLIC HEALTH.)

## ALABAMA

**Personal.**—Dr. Hubert R. Owen, Wedowee, has been appointed health officer for Winston County.——Dr. Frank M. Hall, formerly of Leeds, has been appointed health officer of Limestone County.——Dr. Martle F. Parker, Boaz, has been made health officer of Monroe County, with headquarters in Monroeville.

**Society News.**—The Northwestern division of the Alabama State Medical Association and the Fayette County Medical Society met in Fayette, July 9, with the following speakers, among others: Drs. James M. Mason, Birmingham, "Diverticulitis of the Ileum"; Carl A. Grote, Huntsville, "Present Status of Tuberculosis," and Thompson F. Wickliffe, Jasper, on otomycosis.

**Prevalence of Infantile Paralysis.**—From January 1 to August 28, 314 cases of infantile paralysis with twenty-five deaths have been reported to the state department of health. In concentration of cases, Jefferson County led with twenty-three cases reported since the first of August. Lauderdale is second with thirteen during this period and Cullman third with ten cases. Four cases each were reported in Lawrence and Blount counties, while Colbert reported three. Sporadic cases appeared in the following counties: Franklin, Madison, Morgan, Marshall, Tallapoosa, Mobile and Marengo, two cases each, and one each in Marion, Winston, Etowah, Calhoun, Elmore, Montgomery, Pike, Baldwin, Chilton and Limestone.

**Deaths from Accidents Increase.**—Accidental and violent deaths were the fifth leading cause of death in Alabama in 1935 with a rate of 63 per hundred thousand of population. In 1933 this classification was seventh and in 1934 sixth in the list of causes of death. Home accidents caused 613 deaths, industrial 192, motor vehicles 599 and other public accidents 341. Of the home accidents 28.2 per cent were caused by falls, 29 per cent by burns. One hundred and seventy of these were deaths of children under 5 years of age and 184 of persons 65 or over. Among the children under 5, 29.4 per cent of the deaths were from burns, 28.2 from asphyxiation and 13.5 per cent from poisoning. Among the older group, 63 per cent of the deaths were from falls, 20.6 per cent from burns.

## ARIZONA

**Personal.**—Dr. Bernice L. Steward, Coolidge, has been appointed physician to the state penitentiary in Florence, succeeding his brother, the late Dr. Hobart B. Steward.

**Campaign of Tuberculosis Prevention.**—The state health department, with the cooperation of the U. S. Children's Bureau, the Arizona departments of the Forty and Eight and the American Legion, has begun a statewide campaign of tuberculosis prevention. The work will be entirely diagnostic and will be under the direction of Dr. Willis D. Gilmore, recently of Tombstone, who has joined the state board of health as tuberculosis consultant.

## CALIFORNIA

**Society News.**—Dr. Eugene S. Kilgore, San Francisco, addressed the Sonoma County Medical Society, August 13, in Santa Rosa, on heart diseases.——Drs. Edwin I. Bartlett and Howard H. Markel, San Francisco, addressed the Humboldt County Medical Society, Eureka, August 6, on bone tumors.

## CONNECTICUT

**The New State Medical Journal.**—The first issue of the *Journal of the Connecticut State Medical Society* made its appearance in August. It will be published quarterly for this year, according to present plans. Dr. Stanley B. Weld, Hartford, is editor.

**Annual Clinical Congress of State Society.**—The Connecticut State Medical Society will hold its annual clinical congress in New Haven, September 22-24. The speakers will include:

Dr. Frederic W. Bancroft, New York, Our Duty to the Fracture Patient.
Dr. Burrill B. Crohn, New York, Etiology, Treatment and End-Results of Gastroduodenal Ulcer.
Dr. Foster Kennedy, New York, What the General Practitioner Should Know About Neurology.
Dr. Thomas M. Rivers, New York, Poliomyelitis.
Dr. Louis G. Herrmann, Cincinnati, Recent Advances in the Diagnosis and Treatment of Peripheral Vascular Diseases.
Dr. Vilray P. Blair, St. Louis, Injuries of the Bones and Soft Tissues of the Face.
Dr. Warren T. Vaughan, Richmond, Recent Advances in the Study of Food Allergy.
Dr. Walter T. Dannreuther, New York, Clinical Manifestations of Ectopic Gestation.
Dr. Leonard Greenburg, Albany, N. Y., The Practicing Physician and the Diagnosis and Treatment of Occupational Diseases.
Dr. Edwin H. Place, Boston, Salient Experiences in Thirty Years with Contagious Diseases.

In addition, there will be symposiums on treatment of fractures, peptic ulcer, neurology, poliomyelitis, peripheral vascular disease, injuries to the bones and soft tissues of the face, food allergy, gynecology, industrial diseases, immunity procedures in acute infections, and endocrinology. Bedside clinics at the New Haven Hospital will also form a part of the program.

## DISTRICT OF COLUMBIA

**The Annual Refresher Courses.**—Georgetown University School of Medicine will conduct the first of a series of annual refresher courses, September 14-19. Sessions will be held at the medical school and the Georgetown University, Children's, Gallinger Municipal and Episcopal Eye, Ear and Throat hospitals. The course, which will cover the specialties, is given to acquaint graduates of the medical school with the newer developments in medicine and surgery and the allied branches. It will be concluded with a dinner Saturday evening September 19.

## GEORGIA

**Society News.**—Dr. Olin S. Cofer, Atlanta, addressed the Fulton County Medical Society, Atlanta, August 20, on "Treatment of Cholecystitis."——Dr. Alton M. Johnson, Valdosta, addressed the Coffee County Medical Society, Douglas, August 25, on "Pyloropasm in Infancy."——Dr. James R. Paulk, Moultrie, addressed a meeting of the South Georgia Medical Society, July 14, at the home of Dr. William W. Turner Jr., Nashville, on the use of the bronchoscope.——Speakers at a meeting of the Fourth District Medical Society in Warm Springs August 10 were Drs. Wilmer Baker, New Orleans, on "Handling of Accidents Occurring During the Administration of Anesthesia"; Arthur Neal Owens, New Orleans, "Principles of Plastic Surgery"; Launcelot Minor Blackford, Atlanta, "Cardiac Pain," and Frank K. Boland, Atlanta, "Immediate Care of Fractures."

## ILLINOIS

**Personal.**—Dr. Charles H. P. G. Benning, district health officer of Royal Oak, Mich., has been named school health director of Peoria.

**Deaths from Diabetes Increase.**—The state health department reports that diabetes is now a hazard twice as great as that of tuberculosis for the population in one half of the cities and in one third of the counties of Illinois. Deaths from diabetes have more than tripled during the last twenty-five years, the report stated, while those from tuberculosis have been cut in half. Last year, diabetes caused nearly twice as many deaths as did tuberculosis in twenty-five principal cities and thirty-four counties of the state. There were 1,978 deaths attributed to diabetes in Illinois last year against 600 in 1910 and 342 in 1902, the health department reported.

**Society News.**—Drs. William B. Serbin and Laurence E. Hines, Chicago, addressed the McHenry County Medical Society, August 26, on "Pathology and Treatment of Procidentia of the Uterus" and "Present Knowledge of Endocardial Infections" respectively.——Dr. Lee O. Frech, Decatur, addressed the Randolph County Medical Society, August 27, on medical economics.——Dr. Ford K. Hick, Chicago, will address the Bureau County Medical Society, September 8, on pneumonia.——At a meeting of the Lee County Medical Society, September 7, Dr. Howard L. Beye, Iowa City, will speak on management of acute conditions in the abdomen.——Dr. Lowell D. Snorf, Chicago, will present a paper before the Union County Medical Society, September 10, on "Diagnosis, Pathology and Advancements in the Treatment of Duodenal and Gastric Ulcers."——The Macoupin County Medical Society was addressed, July 28, in Carlinville, by Drs. Frederick O. Schwartz and Martin F. Kouri, both of St. Louis, on "Eye Conditions Treated by General Practitioners" and "Medicine in School Organization" respectively.

## Chicago

**Personal.**—Dr. Maximilian J. Hubeny has been appointed chief of the x-ray department of Cook County Hospital, succeeding Dr. Chester H. Warfield, who has held the position for eight years.

## INDIANA

**Dental Demonstration.**—The bureau of maternal and child health of the Indiana State Medical Association and the Indiana State Dental Association have begun a joint dental program. A trailer containing full dental equipment has been acquired, and Janesville has been selected as the first town for the service. Greene and Owen counties have been designated the first to receive this service because statistical studies of the number of persons on relief, the average industrial income, agricultural income and the general financial status of the two counties show their need. Dental services will be limited to children between 3 and 10 years of age, and only those referred by local agencies and dentists in the county in which the mobile unit is located, and whose financial status has been determined, will be accepted. Robert L. Peden, D.D.S., will operate the mobile unit under the direction of Mary H. Westfall, D.D.S., Indianapolis, who will continue to direct the dental educational program of the state for the coming year. The services of the unit will be limited to prophylaxis, cement and amalgam fillings, and extraction.

## IOWA

**Promotions at State University.**—Dr. Horace M. Korns has been promoted to be professor of the theory and practice of medicine at the State University College of Medicine, it is announced. Other changes on the medical faculty include:

Walter R. Ingram, Ph.D., assistant professor of neuro-anatomy.
Dr. Placidus J. Leinfelder, assistant professor of ophthalmology.
Dr. Jacob J. Potter, assistant professor of otolaryngology.
Waid W. Tuttle, Ph.D., associate professor of physiology.

**Diphtheria Prevention Program.**—During June the state department of health instituted a program of diphtheria prevention in seventeen counties in cooperation with local medical societies. Social security funds were used to pay physicians in these counties for giving one dose of diphtheria alum precipitated toxoid to all resident children between the ages of 9 and 24 months. The treatments were administered in the offices of the participating physicians. Each county medical society set the amount to be charged the parents for giving the treatment to children over 24 months of age. An analysis of the records of diphtheria prevention programs conducted prior to June 1 shows that only 28 per cent of all the children treated were in the age group 5 years and under. Under the new plan, 71 per cent of all the children treated were of preschool age. Since more than 60 per cent of the deaths from diphtheria in Iowa occur in this group, the new plan offers greater possibility for reducing mortality, the state journal points out. The participating counties in the recent program were Adams, Appanoose, Dallas, Davis, Decatur, Keokuk, Louisa, Lyon, Madison, Mills, Monona, Monroe, Page, Polk, Poweshiek, Ringgold and Shelby. With federal funds available for the remainder of the fiscal year ending June 30, 1937, the new project will be launched in Audubon, Buchanan, Cass, Crawford, Delaware, Dubuque (exclusive of the city of Dubuque), Harrison, Jackson, Marion, Pottawattamie (exclusive of the city of Council Bluffs), Winnebago and Woodbury (exclusive of Sioux City) counties.

## KENTUCKY

**Personal.**—Dr. Addie M. Lyon, Frankfort, has been appointed health officer of Lawrence County.——Dr. Lee A. Dare, Ashland, has been appointed health officer of Anderson County to succeed the late Dr. Squire R. Boggess, Lawrenceburg.——Dr. James L. Vallandingham, Lexington, has been appointed superintendent of the Eastern State Hospital, Lexington.

## LOUISIANA

**Educational Campaign in Tuberculosis.**—The Tuberculosis and Public Health Association of New Orleans will carry on a health education campaign in the city schools in the fall, under the auspices of the woman's auxiliary of the Orleans Parish Medical Society.

**Superintendent of Charity Hospital Resigns.**—Dr. Arthur Vidrine, since 1928 superintendent of Charity Hospital, New Orleans, has resigned to devote full time to his duties as dean of Louisiana State University Medical Center. He has been succeeded by Dr. George S. Bel, New Orleans, chairman of the board of administrators of the hospital, it is reported.

**Society News.**—Dr. Morris Fishbein, Chicago, editor of THE JOURNAL, will give an address before the Orleans Parish Medical Society, October 2, on "The New and Changing Social Order in Medicine."——Drs. Ralph E. King, Winnsboro, and James B. Vaughan, Monroe, among others, addressed the Franklin Parish Medical Society in Winnsboro recently on "Injection Treatment of Hernia" and "Hemoglobinuria" respectively.——Dr. Melville W. Hunter, Monroe, addressed the Tri-Parish Medical Society in Tallulah, August 4, on "Pain in the Chest, with Special Reference to Heart Conditions."

## MARYLAND

**Typhoid and Floods.**—The state department of health reports that for the first six months of 1936 only fifty-three cases of typhoid were recorded in spite of the menace of the disease following the destructive floods of March and April. This total compares with 85 in 1935, 124 in 1934, 113 in 1933 and 143 in 1932. Of the fifty-three cases, seventeen occurred in Baltimore and thirty-six in the counties of the state. Carroll, Cecil, Howard, Prince George's, Queen Anne's and Somerset counties reported no typhoid during the first six months of this year.

**New Occupational Disease Bureau.**—The Baltimore City Department of Health has established a new bureau of occupational diseases. Dr. John M. McDonald, Baltimore, has been placed in charge. The newly created department will assist in a survey now being conducted for the Maryland Commission for the Study of Occupational Diseases to determine the probable incidence of industrial disease in the state. Cooperating in the study are the state department of health, the state commissioner of labor and statistics, and the Baltimore department of health.

## MICHIGAN

**Graduate Courses.**—The department of postgraduate medicine, University of Michigan, Ann Arbor, and the Michigan State Medical Society are cooperating in a series of graduate courses, beginning the first week in October and continuing eight weeks. The courses will be given in the following centers: Grand Rapids, Battle Creek and Kalamazoo jointly; Lansing and Jackson jointly; Cadillac and Manistee jointly; Flint, Bay City and Traverse City. A composite of the course will be given in October in Marquette, Houghton or Escanaba, according to the state medical journal. Some of the subjects to be considered include allergic diseases; malposition of the uterus; common psychoneuroses in adults and children; recognition and management of acute and chronic diseases of the ear; care of the injured person, including the recognition and emergency care of fractures, and ulcerative lesions of the gastro-intestinal tract.

## MISSOURI

**Dr. McCordock Succeeds Dr. Loeb.**—Dr. Howard A. McCordock, associate professor of pathology, Washington University School of Medicine, St. Louis, has been appointed head of the department to succeed Dr. Leo Loeb, whose retirement was recently announced. Dr. McCordock was born in Brooklyn in 1895 and graduated from the University of Buffalo School of Medicine in 1923. He has been at Washington University since 1929.

## MONTANA

**State Medical Election.**—Dr. William P. Smith, Columbus, was chosen president-elect of the Medical Association of Montana at the annual meeting in July. Dr. John A. Evert, Glendive, was installed as president and Dr. Elmer G. Balsam, Billings, was reelected secretary. Next year's meeting will be in Great Falls in July.

## NEBRASKA

**Clinical Assembly at Omaha.**—The fourth annual assembly presented by the Omaha Mid-West Clinical Society will be at the Hotel Paxton, October 26-30. Guest speakers will be Drs. Joseph C. Beck, Loyal Davis and Morris Fishbein, editor of THE JOURNAL, Chicago; Hugh Cabot and George B. Eusterman, Rochester, Minn.; Alan Brown, Toronto; John Shelton Horsley, Richmond; Elliott P. Joslin, Boston; James R. McCord, Atlanta; Bernard P. Widman, Philadelphia; Philip D. Wilson and Fred Wise, New York. Clinics will be held October 30 at St. Joseph's and University of Nebraska hospitals.

## NEW JERSEY

**Officers of Medical Board.**—Dr. Arcangelo Liva, Rutherford, was elected president of the state board of medical examiners, July 22; Dr. James J. McGuire, Trenton, secretary, and R. M. Colborn, D.O., Newark, treasurer.

**Typhoid Traced to Spring Water.**—Thirteen cases of typhoid were reported in Englewood August 24. Ten of the thirteen patients had drunk from a spring in the town, samples from which showed presumptive evidence of contamination.

## NEW YORK

**Society News.**—Dr. Harvey B. Matthews, Brooklyn, addressed the Suffolk County Medical Society, Bellport, July 22, on "Breech Presentation."——The annual conference of secretaries of county medical societies will be held in Albany, September 15.

**University News.**—Dr. Edward W. Koch, dean of the University of Buffalo School of Medicine, has been made dean also of the dental school. Dr. Elmer Heath, assistant professor of medicine, has been made assistant dean of the medical school and Russell W. Groh, D.D.S., professor of operative dentistry, assistant dean of the dental school. Dr. Koch is a graduate of Rush Medical College, Chicago, and has been on the faculty at Buffalo since 1918, when he was appointed professor of pharmacology. He has been dean of the medical school since 1930.

### New York City

**Personal.**—Dr. Aaron Arnold Karan, Wallum Lake, R. I., has been appointed assistant director of the Jewish Hospital of Brooklyn. The hospital recently established a serum center with Dr. Sidney D. Kramer in charge.——Dr. Howard Lilienthal recently exhibited three oil paintings and a pastel at the Wayside Arts Gallery on the Albany Post Road, Garrison-on-Hudson.

**Dr. Elsberg Honored.**—The medical staff of the New York Neurological Institute honored Dr. Charles A. Elsberg, chief of surgical service, at a tea on his sixty-fifth birthday, August 24. A special volume of the *Bulletin* of the institute, containing forty original articles contributed by Dr. Elsberg's colleagues and students, was presented to him. Informal addresses were made by Drs. J. Bentley Squier, Frederick Tilney, Cassius H. Watson, Leo M. Davidoff and Dudley D. Roberts.

**Mental Hygiene Clinic at Kings County Hospital.**—More than 500 patients were treated at the mental hygiene clinic at the Kings County Hospital in the first four months of its existence, the department of hospitals reported in July. Cases have been referred from the board of education, the department of public welfare, the board of child welfare, the crime prevention bureau and the department of health, from other city hospitals and other medical institutions, from private citizens and from the courts. A similar clinic is needed at Queens General Hospital, the department stated, and an organization committee has been appointed to plan it.

**The "Transparent Woman."**—The New York Museum of Science and Industry placed on exhibition August 19 the Camp "Transparent Woman." Dr. Dean D. Lewis, Baltimore, unveiled the exhibit and Roy Chapman Andrews, director of the Museum of Natural History, was a speaker at the ceremony. The "Transparent Woman," like the "Transparent Man," which was exhibited at the Century of Progress in Chicago in 1933 and is now on permanent exhibit at the Mayo Clinic, Rochester, Minn., was made at the Museum of Hygiene, Dresden. After a period at the museum the exhibit will be sent on a transcontinental tour, which is expected to last more than two years.

**City Hospitals Overcrowded.**—During the first six months of 1936, city hospitals were filled to 97.4 per cent of their capacity and seven were greatly overtaxed, the department of hospitals recently reported. The seven and their ratio of occupancy to normal capacity were: Queensboro, 126.3 per cent; Fordham, 115.1; Riverside, 114.3; Sea View, 112.9; Bellevue, 106.5; Kings County, 103.4, and Lincoln, 100.2. The statistics showed that 130,111 ward patients were admitted, compared with 125,891 for the corresponding period of 1935; the average hospital stay was 22.4 and dispensary visits totaled 1,296,918. The death rate was 8.3, compared with 8.2 for the preceding year. Dr. Sigismund S. Goldwater, commissioner of hospitals, directed attention to the fact that although Manhattan has numerous private hospitals an exceptionally large proportion of the population is found in public hospitals. Manhattan, with 23.5 per cent of the population of New York, supplies 44.5 cent of the patients in the city hospitals, while Brooklyn, with 37.2 per cent of the population, supplies less than 30 per cent of the indigent sick. In a recent hospital census it was found that in Manhattan there was one patient in a municipal institution for each 220 of the borough population, for the Bronx one out of 666, for Brooklyn one out of 526, for Queens one out of 770 and for Richmond one out of 666. Kings County Hospital is now the city's largest single hospital unit, with 2,885 beds. Bellevue has 2,313.

**Changes in the Faculty at Columbia.**—Dr. Charles A. Flood has been appointed assistant dean of the College of Physicians and Surgeons of Columbia University to succeed Dr. Frederick T. van Beuren Jr., who resigned. Dr. Flood graduated from the college in 1928 and joined the staff in 1934 as assistant in medicine and director of the student health service. Promotion of Dr. Virginia K. Frantz to be assistant professor of surgery and Dr. David Seegal to be assistant professor of medicine was also announced. Appointments in recent months include those of Dr. Samuel A. Cosgrove, Jersey City, N. J., as clinical professor of obstetrics and Dr. Phillips Thygeson, Iowa City, as assistant professor of ophthalmology. Recent promotions include:

Dr. Samuel T. Orton, professor of neurology.
Dr. James Burns Amberson Jr., professor of clinical medicine.
Dr. George E. Daniels, professor of clinical psychiatry.
Dr. Martin H. Dawson, associate professor of medicine.
Dr. John H. Dunnington, associate professor of ophthalmology.
Dr. Harold T. Hyman, associate professor of pharmacology.
Dr. Claus W. Jungeblut, professor of bacteriology.
Dr. Robert L. Levy, professor of clinical medicine.
Dr. Alvan L. Barach, assistant professor of clinical medicine.
Rhoda W. Benham, Ph.D., assistant professor of dermatology.
Dr. Richard M. Brickner, assistant professor of neurology.
Dr. Thomas K. Davis, clinical professor of neurology.
Dr. Paul Gross, assistant professor of dermatology.
Dr. Halford Hallock, assistant professor of orthopedic surgery.
Dr. Hubert S. Howe, clinical professor of neurology.
Dr. George H. Hyslop, assistant clinical professor of neurology.
Dr. Thomas H. Johnson, assistant professor of ophthalmology.
Dr. Leonidas Lantizounis, assistant professor of orthopedic surgery.
Dr. Charles A. McKendree, clinical professor of neurology.
Dr. Irving H. Pardee, clinical professor of neurology.
Dr. Lewis B. Robinson, assistant professor of dermatology.
Dr. Leon A. Salmon, assistant clinical professor of neurology.

## OHIO

**British Physiologist to Address Cleveland Academy.**—Sir Joseph Barcroft, professor of physiology, Cambridge University, England, will open the fall season of the Cleveland Academy of Medicine with an address September 24 on "The Genesis of Respiration." Sir Joseph was a member of the expedition to the Chilean Andes to study physiology of high altitudes several years ago and has recently engaged in research on the fetal circulation.

**Gift to Medical Library.**—The Cleveland Medical Library Association has received recently a bequest of about $7,000 through the will of Mrs. Ida Marvel Ford, to be known as the Cozad-Ford Homestead Collection on Malignant Tumors, to commemorate families who owned and occupied the land on which the library is located. The income from this bequest is to be used to establish and maintain a library on malignant tumors, to foster library research or to provide for public lectures on the subject.

**Rabies in Columbus.**—Strict quarantine on dogs has been imposed by the health commissioner of Columbus, Dr. Nelson C. Dysart, in an effort to prevent rabies. In less than one month more than 100 persons had been bitten by dogs, many were taking antirabic treatment and fifteen dogs' heads had been found positive for rabies, according to *Ohio Health News*. It is now unlawful for any dog to be at large except in the enclosed yard of its owner, and dogs on the street, licensed or unlicensed, must be on leash, accompanied by a responsible person. In the last ten years there have been forty-seven deaths from rabies in Ohio, it was reported.

## OREGON

**Personal.**—Dr. Ralph A. Fenton, Portland, has been appointed a member of the board of regents of Reed College, Portland.

**Society News.**—The Eastern Oregon Medical Society held its annual meeting in LaGrande in June with the following speakers: Drs. Laurence Selling, Frank E. Butler, Blair Holcomb, Raymond E. Watkins, Adalbert G. Bettman and Thomas M. Joyce, all of Portland; Grover C. Bellinger, Salem, and George W. Swift, Seattle. Dr. Clyde O. Wainscott, Pendleton, was elected president.

## PENNSYLVANIA

**Society News.**—Drs. Lucian D. Johnson and Stuart D. Scott addressed the Fayette County Medical Society at Connellsville, September 3, on "Arrhythmias of the Heart" and "Common Infections of the Nasopharynx" respectively.

### Philadelphia

**University News.**—The late Dr. Charles Harrison Frazier, professor of surgery at the University of Pennsylvania School of Medicine, bequeathed to the university a large part of his medical library.

**Hospital News.**—Mount Sinai Hospital has announced a series of health talks for the public to be delivered monthly during the coming winter by members of the hospital staff. The first will be given September 23 on "Common Disorders of the Stomach." Other subjects to be discussed are syphilis, high blood pressure, teeth, hay fever, diabetes and cancer.

### Pittsburgh

**Personal.**—Dr. John P. Griffith, associate professor of surgery, University of Pittsburgh School of Medicine, has been appointed professor to succeed Dr. John J. Buchanan, who is now professor emeritus.——Dr. Jennings C. Litzenberg, Minneapolis, addressed the Pittsburgh Obstetrical and Gynecological Society at its annual meeting recently on "Fallacies of Ectopic Pregnancies."

## RHODE ISLAND

**New Health Units.**—The state department of health has established three new district health units in cooperation with the U. S. Public Health Service, according to the *Rhode Island Medical Journal*. The personnel of each unit will include a physician as director, a sanitary inspector, one or more public health nurses and a clerk technician. Dr. James P. O'Brien, Woonsocket, will be in charge of the north district; Dr. Joseph Castronovo, Providence, the southeast district, and Dr. Raymond F. McAteer, Peacedale, the south district. Until now Providence and Warwick have been the only communities in the state with full time health service.

## TENNESSEE

**New Health Unit.**—A district health unit including the counties of Fentress, Pickett, Clay, Putnam and Jackson was opened the first week in August with headquarters at Livingston. Dr. Harold M. Kelso, Gallatin, formerly health officer of Sumner County, is in charge of the new unit.

**Health at Memphis.**—Telegraphic reports to the U. S. Department of Commerce from eighty-six cities with a total population of 37 million, for the week ended August 22, indicate that the highest mortality rate (21.6) appeared for Memphis and that the rate for the group of cities was 10.3. The mortality rate for Memphis for the corresponding week of 1935 was 15 and that for the group of cities, 9.9. The annual rate for the eighty-six cities for the thirty-four weeks of 1936 was 12.6, as against a rate of 11.7 for the corresponding period of the previous year. Caution should be used in the interpretation of these weekly figures, as they fluctuate widely. The fact that a city is a hospital center for a large area outside the city limits or that it has a large Negro population may tend to increase the death rate.

## TEXAS

**Twenty-Five Years of Teaching.**—Dr. Clarence M. Grigsby, professor of clinical medicine, Baylor University College of Medicine, Dallas, was guest of honor at a dinner celebrating his completion of twenty-five years as an instructor in the school. The dinner was given by Dr. Walter H. Moursund, dean of the college, at the Nurses' Home of Baylor Hospital. The faculty presented to Dr. Grigsby a portrait of himself.

## WASHINGTON

**Society News.**—At a meeting of the Klickitat County Medical Society at White Salmon in June, speakers were Drs. Arthur C. Jones, Portland, Ore., on physical therapy; Robert D. Wiswall, Vancouver, industrial medicine and state medical legislation, and De Walt Payne, The Dalles, Ore., diseases of the ear, nose and throat.

**Health Department Furnishes Antisyphilitic Drugs.**—The Washington State Department of Health is now furnishing to physicians arsenicals to render patients with syphilis noninfectious. When a local health officer receives a report of a case of syphilis he refers it to the state department, which immediately sends three tubes of the drugs to begin treatment. The object of this policy, according to *Northwest Medicine*, is to place syphilitic patients under treatment as quickly as possible and to cultivate in physicians the habit of reporting cases to health officials.

**Railway Surgeons' Meeting.**—The annual session of the Great Northern Railway Surgeons' Association will be held at the Olympic Hotel, Seattle, September 25-26. The scientific program will be presented Friday morning, September 25, with the annual golf tournament in the afternoon at the Seattle Club and the banquet in the evening at the Rainier Club. A fracture clinic will be presented Saturday morning, September 26, at the Providence Hospital under the direction of Dr. Howard J. Knott. In the afternoon members will attend the Minnesota-Washington football game.

## WISCONSIN

**First County Health Unit Established.**—Marathon County established August 1 the first county health unit in Wisconsin, one of three model units to be set up in the state with the aid of state and federal funds. Dr. Harold H. Fechtner, Wausau, has been appointed health officer. The federal government appropriated $5,800, the state $1,000 and the county $3,400.

**Society News.**—The Central Wisconsin Society of Ophthalmology and Otolaryngology met in Appleton June 7-8; speakers were Drs. Harry Gradle, Chicago, on "Uveitis" and "Modern Surgical Treatment for Detachment of the Retina"; William A. Kennedy, St. Paul, "Allergic Manifestations in the Eye, Nose and Throat," and Fred S. Cook, Eau Claire, "Foreign Bodies in the Esophagus and Bronchi."

## PUERTO RICO

**Society News.**—At the first scientific meeting of the Puerto Rico chapter of the Pan American Medical Association in San Juan, July 11, speakers were Drs. José Rodríguez Pastor, San Juan, on "Organization of Health Insurance for the Poor"; Rafael López Nussa, Ponce, "Surgical Treatment of Elephantiasis"; Ramón M. Suárez, "Study of the Bone Marrow in Chronic Schistosomiasis Mansoni"; Isaac F. González Martínez, "Roentgenotherapy in Cancer of the Base of the Tongue, Pharynx and Larynx," and Manuel Díaz-García, "Physiology and Logical Treatment of Hand Infections."——Dr. Eric M. Matsner, executive secretary of the National Medical Council on Birth Control, New York, addressed the Puerto Rican Medical Association, September 1, in San Juan, on "Medical Aspects of Contraception."

## GENERAL

**Society News.**—The annual conference of the National Society for the Prevention of Blindness will be held in Columbus, Ohio, December 3-5.——The fourteenth Congress of French-Speaking Physicians of North America will be held in Montreal, September 7-10.

**Rural Health Service in the United States.**—The U. S. Public Health Service reports that 612 counties in thirty-eight states now have whole-time county, township or district health service as of Dec. 31, 1935, an increase of seventy-one units over 1934. The greatest gains were in New Mexico, in which whole-time service was established in twenty-five counties and in Virginia, where twenty-three counties established the service. According to the report, 28.7 per cent of the rural population of the country now has whole-time health service. Delaware, Maryland and New Mexico lead among the states in this respect, all counties in these states being provided with whole-time health service. Of the 612 units 587, or 95.3 per cent, were receiving financial assistance from one or more of the following agencies: the state board of health, the U. S. Public Health Service, the Rockefeller Foundation, the American Red Cross, the American Women's Hospital Fund, the Rosenwald Fund, the Commonwealth Fund and the Milbank Fund.

**Fraudulent Instrument Repair Man.**—A Missouri physician reports that a man using the name J. C. Hartley recently visited him soliciting orders for instruments and for replating old ones. The man said he represented his own firm of Hartley and Company in St. Louis. He victimized four physicians in one town and has not been heard from since. Letters sent to the St. Louis address have not been delivered. The man was described as being about 5 feet 8 inches tall, weighing about 140 pounds, slightly stooped, with dark hair, thin in front, dark complexion, smooth shaven and wearing glasses. He is said to have shown an excellent knowledge of instruments, their uses and value. An account of similar impositions on physicians appeared in THE JOURNAL, June 6, page 2015.

**Deaths from Diabetic Coma.**—In 1935, 18 per cent of the deaths of diabetic policyholders of the Metropolitan Life Insurance Company were attributed to primary diabetic coma, according to the *Statistical Bulletin*. Of the ninety-seven diabetic children in the study, 70 per cent died from coma, which is four times the proportion occurring at the older ages. Coma was responsible for more than 16 per cent of the deaths at ages 20 and over. In this group it was found that only 28 per cent actually were reported to have used insulin. In emphasizing the need for insulin treatment in this class of patients, the bulletin points out that the incidence of coma deaths among regular users of insulin was one-third lower than that in the entire group. Many coma patients in the study were not known to be diabetic until their final illness. The proportion of coma deaths among them was twice that among patients in whom the disease was diagnosed earlier. This, it was stated, points clearly to two important facts: the value of early diagnosis and the necessity for care in distinguishing diabetic coma from coma resulting from other causes.

**Bequests and Donations** — The following bequests and donations have recently been announced:

Pennsylvania Hospital, Philadelphia, $40,000 for study of gastrointestinal diseases from the estate of Justice M. Thompson after the death of his widow.

Lancaster General Hospital, Lancaster, Pa., $69,000 by the will of Alfred B. Grubb, half to be reserved for a niece during her lifetime.

Lawrence and Memorial Associated Hospitals, New London, Conn., $400,000 by the will of Miss Virginia Palmer.

Mount Sinai Hospital, New York, as subsidiary legatee, will receive $902,369 under the will of the late Edward J. King.

Mount Sinai and Montefiore hospitals, New York, $50,000 and $25,000, respectively, from the estate of Stella Heidelberg Abrahamson for establishment of Isador Abrahamson Neurological Funds.

Newport Hospital, Newport, R. I., $80,000 from the will of the late Mrs. Alice Gwynne Vanderbilt.

Western Reserve University School of Medicine, Cleveland, $1,000 as a gift from Mrs. Ida Zangerle Krause in memory of her late husband, Dr. Carl R. Krause, to be used for the benefit of needy students.

United Hospital, Inc., Port Chester, N. Y., $5,000 under the will of the late Harry De Berkley Parsons.

The Solomon and Betty Loeb Convalescent Home, Eastview, N. Y., $500,000 from the will of the late James Loeb.

Columbia University, New York, $50,000 to establish the Tucker Fellowship in obstetrics by the will of Mrs. Georgianna Tucker.

St. Luke's Hospital, New York, $8,886 by the will of Jane Noyes Smith.

Beth Israel Hospital, Newark, N. J., $2,000 for two ward beds by the late Dr. Jacob Polevski, Newark.

Presbyterian Hospital, New York, $5,000 by the will of the late James Wilson.

Beth Israel, Mount Sinai and Montefiore hospitals, New York, $1,000 each in the will of the late Samuel J. Sonderling.

Brooklyn Hospital, Brooklyn, N. Y., $10,000 by the will of Sophia D. Dosher.

## CANADA

**Society News.** — At the annual meeting of the Ontario Neuro-Psychiatric Association at the Ontario Hospital, Brockville, in June, speakers included Dr. Charles H. McCuaig and Dr. Trevor Owen, Toronto, on "Difficulties in Differentiating Between Hyperthyroidism and Anxiety States," and Dr. Daniel Plouffe, Montreal, Quebec, on "Attitude of the Psychiatrists as Experts in Criminal Courts." Dr. George H. Stevenson, London, was elected president.

**Canadian Association Election—Starr Medal Awarded.** —Dr. Theodore H. Legget, Ottawa, was named president-elect of the Canadian Medical Association at the annual meeting in Vancouver June 22 and Dr. Herman M. Robertson, Victoria, was installed as president. The Frederick Newton Gisborne Starr Medal was awarded to Sir Frederick Banting and Dr. Charles H. Best of the University of Toronto Faculty of Medicine, Toronto, and Dr. James B. Collip, McGill University Faculty of Medicine, Montreal, for preeminent services to the cause of medicine in Canada. The Starr medal was established in 1935 by the widow of the late Dr. Starr, who was for several years general secretary of the association and president in 1927. He died in April 1934.

**Summer School in Vancouver.** — The fourteenth annual summer school of the Vancouver Medical Association will be held in Vancouver at the Hotel Vancouver, September 8-11. Following are the guest instructors and their subjects:

Dr. Irvine McQuarrie, Minneapolis: edema, basic minerals, rôle of fats and fatlike substances in health and disease, convulsive disorders of childhood.

Dr. Evarts A. Graham, St. Louis: thoracic surgery, gallbladder disease, surgery of the pancreas.

Dr. Rollin T. Woodyatt, Chicago: diabetic coma, diabetes with surgical complications, insulin protaminate, treatment of nephritis.

Dr. Gordon B. New, Rochester, Minn.: malignant diseases of the mouth and accessory structures, tumors of the neck and larynx, reconstructive surgery of the face.

Dr. John McF. Bergland, Baltimore: accidental and direct complications, relief of pain, puerperal infections.

Dr. Clarence B. Farrar, Toronto: evolution of a delusion, psychoneurosis and psychotherapy, differentiation of benign and malignant symptoms in incipient mental disorders.

Dr. Claude E. Dolman, Vancouver: undulant fever.

## FOREIGN

**Congresses Postponed.**—The tenth conference of the International Union Against Tuberculosis, scheduled for September 7-10 in Lisbon, Portugal, has been indefinitely postponed, according to the New York *Sun*, August 18. The fourth International Congress of Pediatrics, which was to have been held this year in Rome, has been postponed to April 1937, according to *Science*.

**Personal.**—Dr. Edward Mellanby, secretary of the Medical Research Council, Sheffield, England, received the Moxon gold medal from the Royal College of Physicians of London, July 30, in recognition of his work on problems of nutrition.—— Bernard E. Read, Ph.D., head of the physiologic division of the Henry Lester Institute for Medical Research, Shanghai, China, recently received the King Medal of the Peiping Society of Natural History for his contributions to "further knowledge in the field of natural sciences, especially in this instance for his meritorious work on Chinese drugs."——The Charles Graham Medical Research Fund of the University of London recently awarded a gold medal to Sir Thomas Lewis, London, in recognition of his work on treatment of heart disease.—— Dr. Hugh B. Maitland, professor of bacteriology and director of the department of bacteriology and preventive medicine, University of Manchester Faculty of Medicine, has been appointed dean of the school to succeed Prof. Henry S. Raper, according to the *Medical Press and Circular*.

### Deaths in Other Countries

**Julius Tandler,** for many years professor of anatomy at the University of Vienna and for ten years minister of health in Austria, died in Moscow in August, aged 62, according to an Associated Press dispatch from Vienna in the New York *Times*, August 27.

# *Government Services*

### Changes in Public Health Service

The appointments of the following physicians as assistant surgeons in the regular corps of the U. S. Public Health Service have been announced: Howard D. Fishburn, San Francisco; Theodore L. Perrin, Boston, and James G. Telfer, Miami, Fla. The following transfers in the service have also been reported:

Passed Asst. Surg. Harold D. Lyman, relieved at Washington, D. C., and assigned to marine hospital, San Francisco.

Passed Asst. Surg. Alfred J. Aselmeyer, relieved at Boston and assigned to Washington, D. C.

Asst. Surg. Thomas T. Tomlinson Jr., relieved at New Orleans and assigned to National Institute of Health, Washington.

Recent promotions in the service include Drs. Warren F. Draper and Lewis R. Thompson to medical director in the regular corps; Drs. John D. Reichard, Vance B. Murray and Thomas H. D. Griffitts, to senior surgeon in the regular corps.

### Veterans' Administration to Build More Hospitals

The Veterans' Administration recently announced the approval by President Roosevelt of the acquisition of ground for two new hospitals, the leasing of a third, and the construction of additions to two existing hospitals. Accordingly, the administration will accept a site to be donated by Henry Ford comprising about thirty-seven acres in Dearborn, Mich. A twenty-five bed treatment station, to cost not in excess of $100,000, will be built in Reno, Nev., on a site known as Recreation Park, donated by the city of Reno. The institution to be leased is Wisconsin Memorial Hospital in Mendota, which comprises seventeen buildings on 130 acres of land. This hospital will now accommodate about 300 beds and on completion of a small clinical building, which will be undertaken by the state authorities, the administration will be able to expedite hospitalization of beneficiaries in that area. A new administration building will be constructed at Newington, Conn., including such replacements or remodeling as are necessary, at a cost not to exceed $80,000. At the facility at Hot Springs, S. D., a new hospital building of fifty-eight beds with a surgical suite will be constructed and existing buildings will be rearranged to provide forty-two additional beds, at a cost not to exceed $170,000.

# Foreign Letters

## LONDON

*(From Our Regular Correspondent)*

July 18, 1936.

### The Public Health

In the house of commons the minister of health, Sir Kingsley Wood, said that the estimates for his department amounted to $105,000,000, an increase of $6,000,000 over those of 1935. The increase arose mainly from increased provision for housing, improvement of rural water supplies and health insurance. No country was making such provision for its social services. During the present year the expenditure on all such services, including the amount raised by local rates, would reach the considerable figure of $2,100,000,000 and that 30,000,000 men, women and children would benefit from one or more such services. There had recently been great expansion in public works. Last year the total amount of works sanctioned rose from $130,000,000 to $180,000,000, a figure that had been exceeded only twice since the war. These works included large sums for hospitals, improved drainage, street lighting, public baths and open spaces and waterworks. Better sanitation and better housing and the efforts for improvement in the prevention, diagnosis and treatment of disease, and especially the diffusion of knowledge in principles of health, had borne fruit.

#### THE IMPROVEMENT IN THE HEALTH OF THE NATION

The latest figures showed that the death rate for 1935 was 11.7 per thousand of population. The expectation of life at birth had increased by seven years in the last twenty years. The infant mortality was 57, which compared well with so recent a year as 1929, when the rate was 74. At last maternal mortality showed a slight decrease as compared with previous years. The significance of the decline in the death rate could be better appreciated if it was analyzed in terms of persons living in each age group. Of persons living in each quinquennium from 5 to 45 years the numbers who died were less than half what they were fifty years ago. In the first quinquennium of life the number was less than a third of the number fifty years ago. Last year the principal infectious diseases showed no disquieting features. Influenza aroused no anxiety. There was entire freedom from smallpox. Unlike scarlet fever, diphtheria had not shown any progressive loss of virulence, but antitoxin given early had saved many young lives and it was now possible by artificial immunization in the preschool age to reduce considerably the danger of infection in the most susceptible years of life. Typhoid had fallen step by step with improved water supply and better sewerage and disposal of refuse. But infectious diseases were still responsible for over 60 per cent of all deaths in the ages from 1 to 15 years, although there had been a remarkable decline in the mortality. Death rates at ages under 15 per million living had declined for measles from 750 in 1910 to 201 in 1933, for scarlet fever from 200 to 63, for diphtheria from 384 to 261, and for whooping cough from 798 to 237.

#### THE MALARIA TREATMENT OF DEMENTIA PARALYTICA

The most efficacious treatment of dementia paralytica was inoculation with malaria. With a view to making this treatment generally available, the ministry of health maintained, in cooperation with the London county council, a laboratory where mosquitoes were bred and infected with a pure strain of malaria, with the view to making more generally available this form of therapy. During 1935 the laboratory complied with 318 requests for mosquitoes from 188 hospitals in England and Wales and also supplied hospitals in Germany, Austria and Rumania.

#### TUBERCULOSIS

Nearly 30,000 persons were certified to have died from tuberculosis in 1935, but this was 11,000 fewer than ten years ago. Only a few years ago the word tuberculosis was tabu and people put off consulting physicians after they suspected they had the disease for fear that their suspicions would be confirmed. That attitude was gone and in most cases tuberculosis could be cured if advice was taken in time.

#### MENTAL DISEASE

In no branch of public health had such a striking change been effected in recent years as in the mental disease service. Not many years ago mental disease was treated almost as a criminal offense. The whole atmosphere and outlook of mental treatment had been transformed. Occupational therapy and recreations were playing an increasingly important part in the treatment. The first five years of the act which enabled voluntary patients to be received in public mental hospitals had produced a striking result. The voluntary admissions had risen from 7.1 per cent of the total admissions to 24 per cent in 1935.

#### A NATION OF MEDICINE DRINKERS

One aspect of health affairs could not be regarded with satisfaction. Our unquenchable medicinal thirst continued and it was suggested that we were becoming a nation of confirmed medicine drinkers. In Scotland physicians had never adopted the custom of dispensing medicines and their patients had not been induced to consider a bottle of medicine a necessary corollary to a visit to the physician. In England, on the contrary, for generations physicians had with few exceptions dispensed medicines and the patients had come to regard a visit to the physician as synonymous with the receipt of medicine. The cost in England of providing medicine for the insured population exceeded by 50 per cent that in Scotland and there were no facts in the incidence of disease in the two countries to account for the difference. Nor would any one suggest that the standard of treatment of the Scottish physicians was lower. In 1934 fifty-seven million prescriptions were dispensed under the health insurance acts.

### Protection Against Poison Gas

Major H. S. Blackmore, medical adviser to the air raids precautions department, assisted by police officers, conducted a demonstration at the Metropolitan Police College of mobile gas chambers that are to be used in schemes of antigas training. The chambers are motor trucks with specially constructed gas-tight bodies, in which a gas cloud can be created. For training purposes a form of tear gas that causes no serious injuries will be used. It is intended to place forty trucks on the road and send them to every part of the country. Their use will be permitted only by a fully qualified instructor. They are intended for the training of persons in essential services, such as police and firemen. A new civilian gas mask has been manufactured in millions. It is of simple construction and weighs only 20 ounces. If need arises the masks will be distributed free to the population. Meanwhile they can be bought for $1.50.

At the meeting of the representative body of the British Medical Association, which has begun at Oxford, the following resolution was submitted: "That the representative body is of opinion that any protective measures for the general population against chemical warfare can only be very imperfect and inadequate. Inasmuch as chemical warfare will cause untold suffering and impairment of health physically and mentally, with destruction of life, it should be proclaimed illegal. In the interests of humanity the British Medical Association should take the initiative with a view to securing the cooperation of the medical profession of all countries in order to prohibit the manufacture of poison gas." In the discussion the inadequacy of the protective measures which the government is taking

was disputed. The resolution was defeated and the following amendment was carried: "That this meeting condemns unreservedly the use of poison gas in warfare as inhuman in its results and degrading to civilization and relies on the council to do everything in its power with a view to securing the cooperation of the medical profession of all countries in order to prohibit the use of poison gas."

### Presentation to Lord Moynihan

A presentation was made at the Royal College of Surgeons to Lord Moynihan by the subscribers to the *British Journal of Surgery*, in appreciation of his services to that journal since its foundation in 1913. Professor Hey Groves, who has been editorial secretary during the entire period, paid a tribute to Lord Moynihan's work for the science and practice of surgery. He mentioned particularly his leadership in three movements—the foundation of the Surgical Club, which now bears his name, the *British Journal of Surgery* and the Association of Surgeons of Great Britain and Ireland. He handed to Lord Moynihan a silver statuette of a young man standing on a crystal globe and holding above his head an open book of gold bearing the words "The British Journal of Surgery, 1913-1935." Sir D'Arcy Power, on behalf of the subscribers, handed to Lord Moynihan a check for $5,000, who presented it to the president of the college to be expended on surgical research. In his reply Lord Moynihan referred to his efforts to break down barriers that existed between centers of surgery and between individual centers at home and abroad.

### Cause of Death in Intestinal Strangulation

Intestinal strangulation had been investigated in the laboratories by Mr. G. C. Knight and D. Slome. They had shown that the cause of death was the formation of a toxin, which was produced in from thirty to forty-five minutes after strangulation. The toxin might pass into the lumen of the intestine and later into the peritoneal fluid. For a period varying from a few hours to twenty-two hours, toxin could be obtained in sufficient quantity to kill a normal animal. Strangulation did not produce death by loss of fluid into the intestine but by production of some poison in the intestinal wall.

## PARIS

*(From Our Regular Correspondent)*

July 25, 1936.

### Experimental Syphilis in Mice

At the May 12 meeting of the Académie de médecine, Professor Levaditi presented the results of the experiments of two of his associates, Stroesco and Vaisman, which represent a new study of experimental syphilis, clinically nonapparent, of mice. This research was based on histologic methods, much more advanced so far as technic is concerned than any employed up to the present time. Experimental syphilis in mice, without the slightest clinical evidence, hence termed "nonapparent," is shown, as the result of this study, to be a generalized spirochetiasis of the entire reticulo-endothelial system. The animal, apparently normal, is in reality a veritable living culture of spirochetes. The latter invade the connective tissue of the epidermis and dermis, the glands, the periosteum and the peripheral nerves, which conduct the spirochetes directly to the spinal ganglions without giving rise to any histologic changes. In mice, syphilis is primarily and exclusively not a lymphangitis, the propagation of the spirochetes beginning at the site of inoculation in the epidermis and invading progressively the deeper layer of the skin (including the hair follicles) so rapidly that as early as the thirty-fifth day all the cutaneous structures are full of spirochetes. In the dermis they develop along the connective tissue fibers, attaching themselves to the vessels of the dermis, where they continue to multiply and invade adjacent structures. Not a single cutaneous area is free, including the skin of the tail, trunk, neck and head. The mucous membranes are also invaded and at the base of the dermis areas are to be seen in which the number of spirochetes exceeds that observed at times in the syphilitic chancre of rabbits. The cartilage and periosteum of the mouse are constantly infected. The invasion of the nerves takes place rather late, at about 100 days, either in the perineurilemma or less often in the interior of the dermic nerve ramifications. One can follow the spirochetes into the nerve roots, where they are relatively infrequent, as far as the nerve centers. The absence of any inflammatory reaction, even in foci in which thousands of spirochetes are visible, is striking.

### Pulmonary Arteriography

The attempt to develop new methods of diagnosis with the aid of arteriography (injection of opaque mediums into the general circulation) is well exemplified by the technic of Moniz, Carvalho and Lima. This consists in the introduction of an opaque ureteral catheter under roentgenoscopic control into a vein at the bend of the elbow as far as the right auricle. From 8 to 10 cc. of a 120 per cent solution of sodium iodide is injected and a roentgenogram is taken immediately. An image of the entire pulmonary arterial circulation is thus obtained which permits a detailed study of the hili, thus avoiding errors in the interpretation of ordinary roentgenograms.

At the May 1 meeting of the Société médicale des hôpitaux, Ameuille and his associates reported their experience in the employment of pulmonary arteriography in diseases of the lung on the one hand and in exploration of the mediastinum and pulmonary circulation on the other. In areas affected by pulmonary tuberculosis the blood vessels are scarcely visible, and in advanced cases there seems to be a complete absence of any circulation. This picture is especially frequent in cases of pulmonary abscess. In a number of cases of bronchiectasis the images are indistinct. In a case of cancer of the lung there was a complete absence of vessels, which confirmed the observations following injection of iodized poppy-seed oil into the bronchi, at which it was noticed that none of the opaque medium entered the involved area. In cases of artificial pneumothorax one could easily demonstrate that the circulation was slower and considerably less active. By modifying the original technic the authors were able to identify the pulmonary artery and its ramifications as well as to obtain an excellent picture of the right ventricle and also the infundibulum and trunk of the pulmonary, thus facilitating greatly the interpretation of oblique views of the mediastinum. No serious complications have ever been observed during or after this method of pulmonary arteriography. A severe transitory headache was the only after-effect ever noted.

In the discussion, Laubry stated that he had employed the method on the cadaver but hesitated to apply it clinically, especially in patients with cardiovascular disease. Justin-Besançon had found it difficult to introduce the ureteral catheter as far as the right auricle through a vein of the left arm. One can easily push the catheter beyond the right auricle into the subhepatic veins in cadavers and also in dogs, a result that might be utilized as an extension of the angiographic method of diagnosis. He had never employed the technic clinically. Etienne Bernard said that the method allowed one to distinguish in the mediastinal shadow the bronchial and pulmonary from that due to the vascular components. Ravina found that in dogs the hilar images were in reality those of the blood vessels in the majority of observations. Ameuille believed that there was little risk of serious complications in using the method. It also shows the marked tolerance to iodine if given by certain routes.

### Additional Cases of B. Funduliformis Septicemia

Septicemia due to Bacillus funduliformis appears to occur more frequently than formerly thought, since the clinical picture becomes better known and the identification of the bacillus more perfected. At the May 8 meeting of the Société médicale des hôpitaux, Donzelet, Meyer and Olivier added two recently observed cases. The first patient was a man, aged 26, who had severe chills and high temperatures about ten days after a pharyngitis. The day after the onset of the chills, an arthritis of the right knee was noted and thought to be of gonorrheal origin. The joint pain disappeared but the chills and fever continued for the next ten years, accompanied by a marked icterus. The latter symptom led the authors to make a blood culture in which Bacillus funduliformis was found. Death occurred about two weeks after the onset of the chills and fever. The necropsy revealed numerous pulmonary abscesses varying in size from a lentil to a filbert. The pus showed on culture and stain the same bacillus as found in the blood during life. The pulmonary condition had not presented any physical signs clinically. The liver was greatly enlarged but there were no foci of suppuration. On histologic study the parenchyma showed the typical changes of a degenerative hepatitis.

The second patient was a woman, aged 26. The clinical picture at the onset was that of a tonsillitis accompanied by severe pain along the left carotid sheath. Chills and fever (to 104 F.) appeared two days later and on admission to the hospital, the third day after the onset, the patient appeared extremely ill. She complained of severe pain in the left side of the neck. The objective signs were a slight bronchitis, a left pleural effusion and an arthritis of the left knee. The blood culture in an anaerobic medium, four days after the appearance of the tonsillitis, revealed a very large number of colonies of Bacillus funduliformis. The patient died the same day and the necropsy revealed, as in the first case, many foci of suppuration in the the lungs and a thrombosis of the left jugular vein of antemortem origin.

In animals, multiple abscess of the liver is frequently observed in B. funduliformis septicemia, but this has been reported in only two clinical cases, and in only one of these did icterus occur as in the first of Donzelet's patients. The second case illustrates the pulmonary clinical type with subacute evolution so well described by Pham-Huu-Chi in his thesis. Death occurred on the third day of the septicemia, the main clinical features being the pleuropulmonary and arthritic changes. According to most authors the venous (jugular) thrombosis seems to be a link between the tonsillitis and the rapidly fatal generalized infection, as in Donzelet's second patient.

### Injections of Histamine for Rheumatism

As a result of the reports of Deutsch, histamine has been used extensively in chronic rheumatism. At the May 1 meeting of the Société médicale des hôpitaux, Weissenbach and Perles stated that, if one injects the histamine solution intradermically instead of into the muscles, the pain of the latter method can be avoided. A solution containing 0.5 mg. of histamine hydrochloride per cubic centimeter is used for each sitting, the average dose injected being from 0.25 to 0.5 mg., to which a local anesthetic (phenylpropionate of para-aminobenzoilamino-ethanol) in the proportion of 0.5 mg. to the same amount of histamine is added.

A special 1 cc. syringe graduated in 0.05 cm. and a very fine needle such as one uses for intradermal reactions is essential to inject into the dermis of the region as close as possible to the seat of pain. A series of two to ten injections is given every day or every second day, according to the results obtained. The relief of pain is almost immediate and may be permanent after the first injection, but it may recur after an interval of from six to eighteen hours. Repetition of the injections appears to have a cumulative effect. The muscular contracture and functional disability disappear in direct proportion to that of the cessation of the pain.

So far, forty-one patients suffering all types of acute but especially of chronic rheumatism have been treated. The treatment has been successful, after the first injection, or at least during the first week, in 85 per cent of the cases. At times, painful contractures of several months' and even years' duration disappeared after two or three treatments, often after a single treatment.

This report was followed by detailed histories of forty-one cases in which the treatment had been used.

## BERLIN

*(From Our Regular Correspondent)*

July 6, 1936.

### Secretion of Milk an Indication That the Fetus Has Died

Before the Medical Society of Königsberg, K. W. Schultze described an indication by which the death of a fetus may be established. The growth of the mammary glands during pregnancy is regulated hormonically by the anterior lobe of the hypophysis and by the placenta. While the placenta remains connected with the maternal organism, the mammary glands secrete only colostrum. Lactation is first set in motion when through cessation of placental function a shifting takes place in the hormonic equilibrium of the woman. It is therefore immaterial whether the placenta is expelled normally or remains detached within the uterus; in both cases lactation begins after about two days. This is true also in abortions. From his observation of 100 cases, Schultze became convinced that the secretion of milk during pregnancy and in abortions is indicative of a cessation of placental function and therewith the extinction of life in the fetus. When in hemorrhagic miscarriages the cervical canal is closed, it is difficult to distinguish between an abortus imminens and an abortus incompletus. If in such cases milk can be detected which was not secreted during a preceding period of lactation, the death of the fetus has occurred and its removal is then indicated. Should breast milk suddenly appear in a pregnant woman presenting an infection with high fever, it is to be interpreted in the same manner. The appearance of colostrum, on the contrary, merely indicates the survival of hormone producing chorial elements. Colostrum may be secreted too in cases in which the greater part of the placenta has been loosened by hemorrhagic abortion and the fetus has died. If these data are to be taken as valid, a great saving might result, since futile attempts to combat hemorrhage would not be made in cases in which the fetus has died.

### Communications on Cancer in Germany

In a paper submitted to the Leipzig Medical Society, Klemt states that cancer in childhood is not so infrequent as it is assumed to be. Klemt described three cases observed by him. Two of these were cases of intestinal carcinoma in which correct diagnosis was made only post mortem in the first case and after a third operation in the second case. The incorrect diagnoses in the foregoing cases were "intestinal tuberculosis" and "appendicitis," respectively. The first patient was a girl aged 10, the second a boy, aged 14. In the third case a girl not quite 8 years old presented a melanotic tumor the size of an apple above the right eye, together with xeroderma pigmentosum. The child had already undergone repeated facial operations for malignant neoplasms. She had also received roentgen treatment. Metastases were not present. Of Klemt's

three cases, the first and third ended fatally; the second child is still undergoing operative treatment.

The digestive tract is the favorite seat of childhood carcinoma. Symptomatologically the disease scarcely differs from its manifestation among adults. Opinion is divided on the degree of malignancy; however, infantile cancer in the digestive tract (exclusive of the rectum) seems to be distinguished by a singularly rapid course.

The greater incidence of cancer in older persons is explained to some extent by Freund and Kammer's observation that the power of the blood serum of the young to destroy the cancer cells is greater. In nurslings this power is twenty-one times greater and in older children from four to sixteen times greater than in adults. To what this more powerful defense mechanism in the blood of children and infants is due, no one knows. The question of heredity cannot be answered with certainty excepting in cases of skin cancer accompanied by xeroderma pigmentosum.

A statistical cancer survey was instituted by the National Anticancer Commission, Oct. 1, 1933, on which date work began in many different sections of Germany. The entire project will require five years. Confidential "cancer case cards" and "cancer death cards" are employed. A preliminary report has just been published at Nuremberg covering the first year of the survey up to Oct. 1, 1934. The uniformity of the census and the evaluation of the material have been to a great extent guaranteed. In Nuremberg, with about 420,000 population, the following data for the specified year were acquired from physicians and institutions for the sick: There were 1,345 cases of malignant growths recorded; 492 of the patients were men and 853, or nearly twice that number, were women. This means a cancer morbidity of 2.6 per thousand male inhabitants and of 3.9 per thousand female inhabitants. In the higher age groups the increase in cancer morbidity ran somewhat parallel for the two sexes. Prominent among the men was stomach (151 cases) and intestinal cancer (127 cases), a total of 62.33 per cent of all cancer cases occurring in males. In twenty-two instances, pulmonary and bronchial cancer was found in males. Among females, 164 cases of stomach cancer and seventy cases of intestinal cancer (a total of 234 cases) were ascertained. The uterus was the most frequent seat of cancer among women (256 cases). Only twelve women presented pulmonary and bronchial cancer. Carcinoma of the mammary gland was found in 149 women but in only three men. Sarcomas and other malignant neoplasms were found in forty-six men and sixty women. Of 492 male cancer patients in the year covered by the report 255 died in the course of the same year, while of 853 female patients with cancer 341 died.

Postmortem statistics shed light on the frequent assertion that the increase in the number of tumor cases is the result of more accurate diagnoses. The data were gathered by Dr. W. Hausladen from the postmortem material of the Pathologic Institute of the University of Munich. From 1912 to 1921 a total of 12.19 per cent false diagnoses with regard to cancer were recorded, against 19.67 per cent in the years 1922 to 1931. The largest number of false diagnoses concerned the gallbladder and the pancreas. From 1922 to 1931 a manifest deterioration took place in the ability to recognize carcinoma of the intestine, breasts, ovaries, liver, urinary bladder and thyroid body. During the same period improvement appeared in the ability to detect carcinoma in the rectum, pancreas, gallbladder, larynx, bronchi and lungs.

Of interest for the question of hereditary taint in persons with tumors is a statistical report made public by the Karlsruhe Life Insurance Bank. These records show that, of 636 tumor cases among persons insured by the organization, 13.2 per cent showed a history of malignant growths in parents or in siblings.

### Maxillary Actinomycosis

Professor Axhausen stated before the Berlin Medical Society that maxillary actinomycosis presents the clinical picture of a hard-as-a-board infiltration of the soft parts. The disease is not rare but a majority of cases are not diagnosed. It is from observation of the advanced stage that the classic clinical picture has been formed. The early stage presents an extraordinarily varied form. Early diagnosis is indispensable to rational therapy. It is significant that maxillary actinomycosis never is an independent disease entity but always owes its existence to a pyogenic mixed infection. Primary pure actinomycosis is possible only on the palate and the tongue. Primary disease of the jaw, however, is invariably due to pyogenic infection from some tooth or from some pocket in the alveolar process, which in turn may be traced to a submucous abscess or to an acute osteomyelitis. Frequently the pyogenic cocci prepare the way for the actinomycotic granules in the oral cavity, which, after infiltration, may make progress aided by the bacteria. Since all types of dental infection can be accompanied by actinomycotic mixed infection, microscopic examination of the scraped out granulations and not of the pus alone is necessary in all cases. In chronic cases roentgen irradiation of the areas should accompany surgical treatment. Because of the impossibility of the scraping operation in acute cases, intervention is limited to opening of the abscess. In such cases the great number of residual granules leads to numerous new abscesses. Mild roentgen dosages are more effective than the stronger. The procedure yields good cosmetic results and robs actinomycosis of its fearful character. Fatal cases no longer occur.

### Prof. Gustav Aschaffenburg 70 Years Old

One of Germany's most prominent psychiatrists, Gustav Aschaffenburg, completed his seventieth year May 23. He served for ten years as assistant to Kraepelin, then director of the Heidelberg psychiatric clinic. Young Aschaffenburg shared the labors of the great research scholar, who at that time was laying the groundwork for the Kraepelin revised classification of mental diseases. Aschaffenburg soon came to be interested in questions involving the relationship between jurisprudence and psychology. As prison physician and later as director of a large clinic at Cologne, he was able to make important contributions to our knowledge of this sphere. Already at an early date his work on "Crime and Its Prevention" enlisted the attention of wider circles and was translated into English. Aschaffenburg was a prominent member of the International Criminological Association. His theories found further expression in the *Monatsschrift für Kriminalpsychologie und Strafrechtsreform*, which he edited for nearly thirty years, till 1935. Among his other numerous publications, one has only to mention the well known "Psychiatry and Criminal Law." For nearly thirty years Aschaffenburg carried on as one inspired and as an inspiring teacher, esteemed physician and successful research worker. In 1911 he organized the seventh International Congress of Criminal Anthropology.

### Visual Disturbances in Air Service Candidates

As Dr. Hoffmann stated before the Medical Society of Königsberg, the crucial test of the fitness of recruits for the national air forces is the condition of the vision. Candidates in whom there is even a temporary failure of so-called stereoscopic vision are considered unfit for service as aviators. Tests for strabismus have disclosed that less than 10 per cent of all candidates are free from this defect. In shortsightedness and wide interocular spacing the accommodation must be greater, and divergent strabismus is thus furthered. The reverse is true in farsightedness. The last named condition plays as yet no part in the air service examinations. In testing for defective convergence it is observed that weakness of divergence is more apparent when the eyes are tested from a near point;

weakness of convergence, on the contrary, is better observed from a distant point. The Americans maintain the most rigorous standards in the selection of fliers; they still differentiate between convergent and divergent strabismus.

The normal adjustment of the eyes in the same direction is designated as "orthophoria." Disproportion due to the development of the muscles, the facies and the blood and fat content leads to "heterophoria." Hoffmann has to date made visual examinations to determine the fitness of 1,822 fliers. From this material he gathered the following data: Orthophoria was present in only 171 men (9.4 per cent), defective convergence in 352 (19.4 per cent), defective divergence in 1,299 (71.2 per cent). In twenty-five men (1.37 per cent) deficient stereoscopic vision was present. Divergence is frequently encountered but is regarded as negligible, since it is seldom linked with other complications.

## JAPAN

*(From Our Regular Correspondent)*

July 20, 1936.

### Discussion of Taxation of Practitioners and Hospitals

Prof. Masao Kambe of the department of economics of the Kyoto Imperial University, one of the highest authorities on taxation in Japan, said in a recent paper that, from the standpoint of taxation, medical practice and the general attitude of physicians toward their patients may well be reconsidered. At present two kinds of taxes are imposed on medical practice. One is the registration fee, the other a business tax. The former is a small sum paid only once when a physician is registered. The latter is imposed on profit-making business but has not yet been imposed on the individual practitioner. The reason is that medical practice deals with life, something mysterious, spiritual and noble; also medical treatment depends more on the individual's mental training than on equipment or apparatus. But of late medical practice has shown a tendency toward profit making. The buildings are more attractive than before, and widespread advertisements are always inviting patients. In administering a medicine, more than necessary might be prescribed or sold, while too many patients are advised to go to the hospital where they have to pay for room and board besides medical treatment. In such a case it is almost the same as a profit-making business with a big capital. It is therefore natural that such business-like transactions should produce a profit that might be taxed. Indeed, some practice may be said not to differ at present in some respects from the business of boarding houses, hotels and manufacturing. Even religion is coming to be abused as a means of raising profit. Medical institutes or hospitals today, besides administering medicine, injections and treatment, sometimes have several hot springs attached to them thus providing recreation; often electrotherapy and other treatments are available, and their management is going more and more into minute and exhaustive details.

The present system of taxation on medicine in Japan is divided into the following kinds: First, on the private practitioner, who must pay an income tax, a capital levy, a land tax and a house tax with its surtax. Second, on the hospital incorporated for making profit. Third, on a hospital incorporated for public welfare, which must pay a land tax with its surtax. Governmental hospitals are not taxed. There is much doubt whether such a discriminative taxation is right; for instance, a corporation hospital for public welfare may easily, consciously or unconsciously, raise profit. In such a hospital at present, it is loudly announced that medicines and other services are given at a net price. The charge is 10 sen a day for medicine. When compared with the rule of the Japan Medical Association, it is cheaper by from 15 to 25 sen, but the true cost price is said to be only 3 sen for medicine. The charge for injection also has some profit in it, and in some hospitals the time required in examining patients, according to their reports, averages three minutes and forty seconds per patient, which is not a great deal of labor and time if compared with thirty or forty minutes, which is the usual time for an examination on an ordinary occasion. This fact shows that even a hospital for public welfare may easily make some profit by will or by chance. On the contrary, the hospital operated for profit may limit its profit and keep it to not more than the interest on the bonds, while the surplus may be used to improve the equipment. Judging from these facts, it is difficult to estimate whether a certain hospital is benevolent or operated for profit. There are also two kinds of individual practitioners: one is benevolent, the other is avaricious. When a doctor is an employee or has no hospital or office of his own but merely makes a professional visit to patients, he ought to be free of all taxes. But profit making is the object of most practitioners. A strong objection to imposing taxes on doctors is that it means levying taxes on the lower classes. In fact, the poor are obliged, under present circumstances, to take "patent medicines" because they cannot afford to consult physicians. Consequently the taxes will generally be imposed on the middle and upper classes. Others say that this tax will increase the cost of living. This is perhaps a groundless fear. Therefore, besides the income tax, a business tax should be levied on practitioners as well.

### The Number of Poisonings During 1935

According to the figures of the Home Office, the number of persons poisoned during 1935 was 14,942, of which 8,515 were cases of intentional poisoning (56.98 per cent); 6,392 were cases of accidental poisoning (42.78 per cent). Phosphorus poisonings numbered 2,023, resulting in 1,170 deaths, the highest death rate. There were 1,041 poisonings from various "patent medicines," with 190 deaths. Mercury killed 118 of 221 persons who took it. Of 113 persons who took cyanic acid, ninety-six died.

### A New Department of Health and Sanitation

Recently at a cabinet meeting the ministers of the army and of the navy suddenly proposed the establishment of a department of health and sanitation. It is strange that this proposal was not made by the minister of home affairs, under whose management has come almost all the important health measures. This is because the military medical bureau has for years been desirous of an independent department to exercise general control over all medical matters, which are now handled by many sections and branches in several departments. What prompted the army and navy most was the physical examinations for conscription in recent years, which showed a decline in the physical condition of young men. In the five years from 1922 to 1926, about 250 per thousand of those examined failed to pass the physical examination for conscription. In the five years from 1927 to 1932, about 350 failed, while in 1935 about 400 per thousand young men failed to pass the examination. In the examinations it was found that the height of the young men was much improved compared to former days, but that their weight has not improved correspondingly. There are now found about fifteen times as many cases of tuberculosis as there were thirty years ago. The increase in near-sightedness among school boys is surprising. The authorities believe that the cause of such a decline in health can be justly attributed not to the want of physical education, to shortage of nutrition or medicine or to overwork, but chiefly to the poor health of the mother. From the standpoint of national defense, the army and the navy urgently desire to establish a new independent department devoted to the reconstruction of the national physique. The Japan Medical Association held a special meeting concerning this problem in Tokyo to help the army and navy in this movement, and it seems to be only a matter of time till the new plan will be realized.

## Marriages

JAMES ADAMS HAYNE JR., Congaree, S. C., to Miss Lorraine Evelyn Stahl of White Plains, N. Y., in New York, June 30.

MORTON MORRIS PINCKNEY, Richmond, Va., to Miss Louise Lippitt Sinnickson of Bryn Mawr, Pa., May 16.

WILLIAM ROLLAN HILL, Charlottesville, Va., to Miss Sherrard Pierson Parrish of Richmond, May 16.

CHARLES DONALD LORD, Montclair, N. J., to Miss Ruth Eleanor Henderson of Bloomfield, June 13.

BENNETT WATSON ROBERTS, Durham, N. C., to Miss Elizabeth Walton Parker in Norfolk, Va., May 28.

EUGENE BEVERLY FERRIS JR., Cincinnati, to Miss Charlotte Gordon Hopkins of Dover, Mass., June 6.

CHARLES JACK FISHER, Moulton, Ala., to Miss Margaret Zeigler of Birmingham, May 29.

BENJAMIN D. PARISH JR., North Hills, Pa., to Miss Hanna A. Yost of Norristown, May 28.

JEFFERSON BISHOP KISER to Miss Margaret Mahood Johnston, both of Emporia, Va., June 1.

HAROLD B. TURNER, Bloomfield, Ind., to Miss Essie Katherine Rairden of Lyons, May 28.

CHESTER L. RILEY, Richmond, Va., to Miss Verna Parker of Powhatan, June 8.

## Deaths

**James Meschter Anders** ⊕ emeritus professor of medicine at the University of Pennsylvania Graduate School of Medicine, Philadelphia, died, August 29, at his summer home in Blue Hill Falls, Maine, aged 82. Dr. Anders was born in Fairview Village, Pa., July 22, 1854. He received a medical degree from the University of Pennsylvania Department of Medicine, Philadelphia, in 1877, in which year he also received the degree of doctor of philosophy. For many years he was professor of theory and practice of medicine and clinical medicine at the Medico-Chirurgical College of Philadelphia, which became the Graduate School of Medicine of the University of Pennsylvania, where he was for many years professor of medicine and clinical medicine and later emeritus professor. He was chairman of the Section on Practice of Medicine of the American Medical Association from 1900 to 1901, a life member of the Academy of Natural Sciences, a member of the American Clinical and Climatological Association, the Association of American Physicians, and many other scientific and civic societies; past president of the American College of Physicians, the College of Physicians of Philadelphia and the Pennsylvania Tuberculosis Society. At various times Dr. Anders was a visiting physician to the Protestant Episcopal Hospital; physician to the Medico-Chirurgical Hospital; consulting physician to the Jewish Hospital, Philadelphia, and the Widener Home for Crippled Children, and Asylum for Insane, Norristown, and for many years member of the visiting staff and later member of the advisory board of the Philadelphia Hospital. He was president and formerly vice president of the board of trustees of the Perkiomen School, Pennsburg; president of the board of trustees of Ursinus College, and member of the board of managers of the City Parks Association and the board of health of Philadelphia. Dr. Anders was the author of a textbook known as the "Principles and Practice of Medicine," which passed through fourteen editions, and co-author of "Textbook of Medical Diagnosis." In 1923 he was made a Chevalier of the Legion of Honor of France. In 1928 he was awarded the degree of doctor of science by the University of Pennsylvania, and in 1929 the honorary degree of doctor of laws by the Pennsylvania Military College; various other honors were conferred on Dr. Anders during his long and distinguished career.

**William Henry Mayer** ⊕ Pittsburgh; University of Pennsylvania School of Medicine, Philadelphia, 1912; member of the House of Delegates of the American Medical Association in 1920 and from 1922 to 1935; past president of the Medical Society of the State of Pennsylvania; past president and secretary of the Allegheny County Medical Society; fellow of the American College of Physicians; member of the American Psychiatric Association and the Association for Research in Nervous and Mental Disease; associate professor of neurology, University of Pittsburgh School of Medicine; aged 49; attending neurologist to the Passavant and Allegheny General hospitals and Pittsburgh Diagnostic Clinic; psychiatrist to St. Francis Hospital, where he died, August 23.

**Clyde Yeager Beard** ⊕ Cheyenne, Wyo.; University of Louisville (Ky.) Medical Department, 1905; president of the Wyoming State Board of Medical Examiners; past president and secretary of the Wyoming State Board of Health; formerly councilor of the Wyoming State Medical Society; served during the World War; local examiner for the U. S. Veterans' Bureau from 1919 to 1923; fellow of the American College of Surgeons; formerly county coroner; aged 55; on the staff of the Burns (Wyo.) Hospital and the Memorial Hospital of Laramie County, where he died, July 2, of peritonitis following an operation to remove the stump of the appendix.

**Alva Porter Stoner** ⊕ Des Moines, Iowa; St. Louis College of Physicians and Surgeons, 1891; past president of the Iowa State Medical Society; formerly professor and head of the department of obstetrics, and assistant professor of surgery and clinical surgery in the Drake University College of Medicine; at one time professor of oral surgery and professor and head of the department of physiology in the Drake University Dental Department; served during the World War; fellow of the American College of Surgeons; surgeon to the Iowa Lutheran and Broadlawn General hospitals; aged 68; died, May 31, of aneurysm.

**Martin John Synnott** ⊕ Montclair, N. J.; College of Physicians and Surgeons, Medical Department of Columbia College, New York, 1894; served during the World War; colonel in the Medical Officers Reserve Corps of the U. S. Army; fellow of the American College of Physicians; formerly a member of the city board of health and a member of the county milk commission; visiting physician to St. Vincent's Hospital; consulting gastro-enterologist and director of the proctologic department, Midtown Hospital; aged 67; died, July 15, of cerebral hemorrhage.

**Francis Ingersoll Proctor** ⊕ Santa Fe, N. M.; Harvard University Medical School, Boston, 1892; member of the Massachusetts Medical Society; consultant in trachoma to the Indian Service; formerly on the staffs of the Massachusetts Eye and Ear Infirmary, the Boston City Hospital and Carney Hospital, Boston, and the Perkins Institution and Massachusetts School for the Blind, Watertown, Mass.; aged 71; died, July 8, in the Albert Merritt Billings Hospital, Chicago, of infected subdural hematoma and leptomeningitis.

**Michael Francis Fallon** ⊕ Worcester, Mass.; Harvard University Medical School, Boston, 1887; past president of the Worcester District Medical Society and formerly vice president of the Massachusetts Medical Society; member of the New England Surgical Society; fellow of the American College of Surgeons; at one time member of the Massachusetts State Board of Registration in Medicine; surgeon-in-chief to St. Vincent Hospital; aged 72; died, June 24, of arteriosclerosis and myocarditis.

**Rufus Benjamin Weaver,** Philadelphia; Eclectic Medical College of Philadelphia, 1863; Penn Medical University, Philadelphia, 1865; demonstrator of anatomy in 1869, lecturer on regional anatomy from 1876 to 1896 and later professor of anatomy and professor emeritus at the Hahnemann Medical College and Hospital of Philadelphia; in 1888 dissected and mounted the entire cerebrospinal nervous system; aged 95; died, July 15, of arteriosclerosis.

**Walter Gaines Bogart,** Chattanooga, Tenn.; University of Tennessee Medical Department, Nashville, 1883; member of the Tennessee State Medical Association; past president of the Chattanooga and Hamilton County Medical Society; at one time professor of diseases of women and obstetrics at the Chattanooga Medical College; aged 78; for many years on the staff of the Erlanger Hospital, where he died, July 9, of hypostatic pneumonia.

**Herschel Benoni Cummins,** Seward, Neb.; University of Nebraska College of Medicine, Lincoln, 1885; member of the state board of health, 1897 to 1901 and from 1907 to 1915; formerly member of the state legislature; member of the county insanity commission for forty-four years; at one time taught physiology and hygiene at Cotner College, Lincoln; aged 77; died, June 30, of carcinoma of the rectum.

**Othello Clayton Bishop,** Port Townsend, Wash.; University Medical College of Kansas City, Mo., 1912; member of the Washington State Medical Association; served during the World War; at one time connected with the U. S. Public Health Service; formerly on the staff of the U. S. Marine Hospital number 17; aged 49; died, June 8, in the U. S. Marine Hospital, Seattle, of cardiac disease.

**James Seferen Ennis,** New York; College of Physicians and Surgeons, Medical Department of Columbia College, New York, 1889; formerly professor of laryngology and rhinology, Fordham University School of Medicine; consultant in laryngology and rhinology at the Fordham Hospital; aged 66; died, June 1, in the New York Post-Graduate Medical School and Hospital, of chronic nephritis.

**Anna Dwyer** ✠ Chicago; Northwestern University Woman's Medical School, Chicago, 1896; formerly medical examiner of the public schools and physician to the Municipal Courts; at one time president of the staff of the Mary Thompson Hospital and on the staff of the Chicago Municipal Hospital; aged 63; died, June 10, in the Columbus Hospital, of cerebral hemorrhage and hypostatic pneumonia.

**Harry Albert Singer** ✠ Chicago; Rush Medical College, Chicago, 1922; associate professor of medicine, University of Illinois College of Medicine; member of the Central Society for Clinical Research; on the staffs of the Cook County Hospital, University Hospital and the Research and Educational Hospital, University of Illinois; aged 40; died, August 21, of hypertension and acute pericarditis.

**Michael Edward Flaherty,** Jersey City, N. J.; Jefferson Medical College of Philadelphia, 1906; member of the Medical Society of New Jersey; during the World War was in charge of the sixth medical inspection district and was connected with the exemption boards of the city; from 1910 to 1917 visiting physician to the City Hospital; aged 58; died, June 12, of lobar pneumonia.

**Frank P. Dohearty,** Appleton, Wis.; Northwestern University Medical School, Chicago, 1897; member of the State Medical Society of Wisconsin; formerly city health officer; county and city physician for many years; for many years on the staffs of the Outagamie County Asylum for Chronic Insane and St. Elizabeth Hospital; aged 64; died, June 18, of myocarditis.

**Erwin William Exley,** Minneapolis; University of Minnesota Medical School, Minneapolis, 1925; member of the Minnesota State Medical Association and the American Urological Association; aged 38; died, May 28, in the New York Post-Graduate Medical School and Hospital, New York, of bronchopneumonia following an operation for acute appendicitis.

**Eugene Price Gray** ✠ Winston-Salem, N. C.; Johns Hopkins University School of Medicine, Baltimore, 1906; past president of the Forsyth County Medical Society; on the staffs of the Heath Memorial Infirmary, North Carolina Baptist and City Memorial hospitals; aged 55; died, June 24, of cerebral hemorrhage and coronary thrombosis.

**William Lafoy Hall** ✠ Seattle; Vanderbilt University School of Medicine, Nashville, Tenn., 1890; for five years practiced at Shansi, China, under the American Board of Commissioners for Foreign Missions and later again engaged in missionary work in Suining Sze, China; aged 68; died, May 29, following an operation for gallstones.

**Cadwallader Curry Vinton,** New York; College of Physicians and Surgeons, Medical Department of Columbia College, New York, 1885; member of the Medical Society of the State of New York; formerly a medical missionary in Korea; at one time managing editor of *Physical Therapeutics;* aged 76; died, June 26, in Bellevue Hospital.

**William Maddren Dawson,** Brentwood, N. Y.; University of Maryland School of Medicine, Baltimore, 1931; assistant physician on the staff of the Pilgrim State Hospital; aged 31; died, June 12, in the Southside Hospital, Bay Shore, of injuries received when the automobile in which he was driving was struck by a train.

**John Francis Luby,** New Haven, Conn.; College of Physicians and Surgeons, Medical Department of Columbia College, New York, 1878; member of the Connecticut State Medical Society; for many years president of the medical board and on the staff of the Hospital of St. Raphael; aged 78; died, May 31.

**Irving Deyo Le Roy,** Utica, N. Y.; Albany (N. Y.) Medical College, 1883; member of the Medical Society of the State of New York; for many years health officer of Pleasant Valley; aged 77; died, May 21, in the Masonic Soldiers and Sailors Memorial Hospital, of arteriosclerosis.

**Zebulon J. Spruiell,** Jewett, Texas; University of Texas School of Medicine, Galveston, 1899; past president of the Leon County Medical Society; formerly county health officer; for many years president of the school board; aged 69; died, May 22, in a hospital at Dallas.

**Arthur Taylor Downing** ✠ Littleton, N. H.; Dartmouth Medical School, Hanover, 1903; past president of the Grafton County Medical Society; fellow of the American College of Surgeons; on the staff of the Littleton Hospital; aged 58; died, June 25, of carcinoma.

**Willard L. De Wolf,** Los Angeles; Jefferson Medical College of Philadelphia, 1879; member of the Medical Society of the State of Pennsylvania; formerly a practitioner in Butler, Pa.; aged 80; died, June 19, of arteriosclerosis, mitral regurgitation and nephritis.

**Howard William Girvin,** Marianna, Fla.; Syracuse University College of Medicine, 1911; served during the World War; aged 54; formerly on the staff of the Florida State Hospital, Chattahoochee, where he died, May 31, of cardiovascular renal disease.

**Clarence E. Munn,** Marysville, Wash.; Hahnemann Medical College and Hospital, Chicago, 1884; member of the Washington State Medical Association; formerly county coroner, mayor of Marysville and member of the city school board; aged 72; died, May 28.

**Charles Berry Constable,** Santa Barbara, Calif.; University of Maryland School of Medicine, Baltimore, 1883; Hahnemann Medical College of Philadelphia, 1884; aged 71; died, June 21, of chronic myocarditis, hypertrophy of the prostate and arteriosclerosis.

**John Harold Gooding,** Boston; Tufts College Medical School, Boston, 1915; served during the World War; for many years a medical examiner at the United States Veterans' Bureau; aged 44; died suddenly, June 25, of coronary occlusion.

**Edward Everett,** Dushore, Pa.; Jefferson Medical College of Philadelphia, 1868; member of the Medical Society of the State of Pennsylvania; aged 89; died, June 30, in the Robert Packer Hospital, Sayre, of arteriosclerosis and myocarditis.

**Fred Arad Lampman,** Elkhart, Ind.; Indiana University School of Medicine, Indianapolis, 1917; member of the Indiana State Medical Association; on the staff of the Elkhart General hospital; aged 49; died, May 15, of cerebral hemorrhage.

**Louis Vincent Clarke,** Far Rockaway, N. Y.; Columbia University College of Physicians and Surgeons, New York, 1905; on the staff of St. Joseph Hospital; aged 57; died, June 5, in Belle Harbor, of carcinoma of the sigmoid.

**Edmund H. Dorris,** Bolivar, Tenn.; Memphis Hospital Medical College, 1901; bank president; since 1902 county health officer, and since 1914 chairman of the county school board; aged 62; died, June 19, of cerebral hemorrhage.

**Charles E. Duve,** Nordheim, Texas; Memphis (Tenn.) Hospital Medical College, 1905; member of the State Medical Association of Texas; health officer of Nordheim; aged 63; died, May 6, in the Allen Hospital, Yorktown.

**Wray Devere Marr Lloyd,** Rio de Janeiro, Brazil, S. A.; University of Western Ontario Medical School, London, Ont., Canada, 1926; connected with the Rockefeller Foundation; aged 33; died, June 2, as the result of a fall.

**Charles McCauley Emmons,** Washington, D. C.; Georgetown University School of Medicine, Washington, 1893; member of the Medical Society of the District of Columbia; aged 62; died, May 29, at his home in Suitland, Md.

**Finis Logan Anderson,** Springfield, Mo.; Kansas City Medical College, 1890; served during the World War; aged 59; died, May 13, in the Veterans Administration Facility, Fayetteville, Ark., of chronic myocarditis.

**Frederick P. Sprague,** Wyandotte, Mich.; Cleveland College of Physicians and Surgeons, Medical Department Ohio Wesleyan University, 1896; member of the Michigan State Medical Society; aged 68; died, May 30.

**Edgar Adams Wilson,** Meriden, Conn.; University of Pennsylvania Department of Medicine, Philadelphia, 1881; aged 82; for many years on the staff of the Meriden Hospital where he died, May 19, of pneumonia.

**Robert Thomas Dickey,** Winnsboro, Texas; University of Texas School of Medicine, Galveston, 1911; member of the State Medical Association of Texas; aged 48; was killed, May 14, in an automobile accident.

**Russell Felts Hufford,** Tip Top, W. Va.; Medical College of Virginia, Richmond, 1932; member of the West Virginia State Medical Association; aged 28; died, May 19, in a hospital at Welch, of pneumonia.

**Clemens Max Richter** ✠ San Francisco; Medizinische Fakultät der Universität Leipzig, Saxony, Germany, 1872; aged 87; died, May 19, of cerebral hemorrhage, hemiplegia and arteriosclerosis.

**Ralph Kilpatrick,** Alexandria, La.; Tulane University of Louisiana Medical Department, New Orleans, 1885; member of the Louisiana State Medical Society; aged 74; died, May 14, of endocarditis.

**Otto Henry Gerdes** ⊕ Eureka, S. D.; Rush Medical College, Chicago, 1892; formerly on the staff of the Eureka Community Hospital; aged 68; died, June 29, of cerebral sclerosis and thrombosis.

**William Louis Hanson** ⊕ Dallas, Texas; Baylor University College of Medicine, Dallas, 1921; aged 37; on the staff of St. Paul's Hospital, where he died, May 21, of a cerebral hemorrhage.

**Eugene Lorin Ketchum,** Independence, Ore.; University of Michigan Department of Medicine and Surgery, Ann Arbor, 1883; aged 80; died, June 21, in Portland, of carcinoma of the liver.

**Charles Manville Pratt** ⊕ Towanda, Pa.; University of Pennsylvania Department of Medicine, Philadelphia, 1882; aged 76; died, May 23, of cerebral hemorrhage and arteriosclerosis.

**Edmund Burke Brown,** Cotton Plant, Ark.; Louisville (Ky.) Medical College, 1903; member of the Arkansas Medical Society; served during the World War; aged 55; died, May 6.

**John Robert Smith,** Louisville, Ky.; Louisville National Medical College, Medical Department State University, 1910; aged 57; died, May 28, of coronary thrombosis and influenza.

**Joseph Thomas Johnson,** Indianapolis; Meharry Medical College, Nashville, Tenn., 1913; aged 44; died, May 24, of mitral insufficiency, pharyngitis and hypostatic pneumonia.

**William Walker Gatliff** ⊕ Butte City, Calif.; St. Louis College of Physicians and Surgeons, 1884; past president of the Glenn County Medical Society; aged 79; died, May 12.

**Mary L. B. Wooster,** Washington, D. C.; Howard University College of Medicine, Washington, 1883; aged 79; died, May 12, of cerebral hemorrhage and arteriosclerosis.

**William Miles Wallis,** Atlantic, Iowa; University of Buffalo, School of Medicine, 1870; formerly a practitioner in Maryville, Mo.; aged 88; died, May 11, of cerebral sclerosis.

**Jacob Louis Krupp,** Brooklyn; Long Island College Hospital, Brooklyn, 1906; aged 54; on the staff of the Beth-El Hospital, where he died, May 5, of Hodgkin's disease.

**John J. Parker,** Merom, Ind.; Kentucky University Medical Department, Louisville, 1900; member of the Indiana State Medical Association; aged 63; died suddenly, May 17.

**Harry William Sampson** ⊕ Bangor, Maine; Medical School of Maine, Portland, 1906; served during the World War; aged 54; died, May 27, of lobar pneumonia.

**Walter James Axford,** Philadelphia; Hahnemann Medical College and Hospital of Philadelphia, 1904; aged 56; died, May 17, in the Hahnemann Hospital, of lobar pneumonia.

**Frank Philip Brendel** ⊕ Sacramento, Calif.; University of California Medical School, San Francisco, 1917; served during the World War; aged 48; was drowned, May 24.

**Frank Warren Johnson** ⊕ Fullerton, Neb.; Omaha Medical College, 1894; formerly secretary of the Nance County Medical Society; aged 68; died, May 11, of angina pectoris.

**Arthur Lemuel Davis,** Wyaconda, Mo.; College of Physicians and Surgeons, Keokuk, Iowa, 1897; aged 62; died, May 20, of diabetes mellitus and heart disease.

**Mary Anne Harriss,** San Francisco; Cooper Medical College, San Francisco, 1899; aged 71; died, May 13, of coronary thrombosis, arteriosclerosis and hypertension.

**Paul W. Wadsworth,** Milan, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1883; formerly mayor of Milan; aged 76; died, May 27, of carcinoma of the face.

**Newton E. McDannald,** News Ferry, Va.; University College of Medicine, Richmond, 1900; member of the Medical Society of Virginia; aged 74; died in May.

**Edward William Vietor,** Orford, N. H.; Regents of University of State of New York, 1875; aged 84; died, May 16, of coronary embolism and angina pectoris.

**George Norman Stockwell,** Ventura, Calif.; University of the City of New York Medical Department, 1891; aged 66; died, May 20, of hypernephroma of the kidney.

**Michael Joseph Hart,** Boston; Harvard University Medical School, Boston, 1896; aged 64; died, May 23, in the Boston City Hospital of cardiac decompensation.

**Louis Gilbert Altman,** Salem, Ore.; Hahnemann Medical College and Hospital, Chicago, 1882; aged 83; died, May 19, of coronary occlusion and myocarditis.

**William Maxey Joy,** Kansas City, Mo.; Eclectic Medical University, Kansas City, 1907; aged 63; died, May 29, in a local hospital, of cerebral hemorrhage.

**Katharine W. Ulrich** ⊕ Chester, Pa.; Woman's Medical College of Pennsylvania, Philadelphia, 1899; aged about 66; died, May 18, of arthritis deformans.

**Vincent B. Beszczynski,** Buffalo; University of Buffalo School of Medicine, 1906; aged 63; died, June 4, of chronic myocarditis and arteriosclerosis.

**Crisoforo Solis,** Rio Grande City, Texas; Escuela de Medicina de Nuevo Leon, Monterey, Mexico, 1896; county health officer; aged 67; died in May.

**John Ross Gilbert,** Camden, N. J.; University of the South Medical Department, Sewanee, Tenn., 1895; aged 65; died, May 12, of cerebral embolism.

**Francis Allen Richardson,** San Francisco; Baltimore University School of Medicine, 1901; served during the World War; aged 62; died, May 18.

**James Joshua Herrington,** Worley, Idaho; American Medical College, St. Louis, 1893; aged 67; died, May 7, in Coeur d'Alene, of pneumonia.

**Linn Bardeen Palmiter,** Sidney, N. Y.; University of Vermont College of Medicine, Burlington, 1891; aged 66; died, May 24, of angina pectoris.

**Edgar Rufus Boren** ⊕ Laredo, Texas; Baylor University College of Medicine, Dallas, 1916; aged 45; was killed, May 20, in an automobile accident.

**Horace Preston Belknap,** Prineville, Ore.; Bellevue Hospital Medical College, New York, 1886; aged 80; died, May 18, of cerebral hemorrhage.

**Glenn Arthur Easton** ⊕ Grand Rapids, Mich.; Detroit College of Medicine, 1906; aged 58; died, May 22, of pulmonary embolism and phlebitis.

**Laviro V. Shawver,** Corliss, W. Va.; University of Louisville (Ky.) Medical Department, 1894; aged 71; died, May 23, of chronic myocarditis.

**John Sutherland,** Britton, S. D.; Rush Medical College, Chicago, 1889; county health officer; aged 79; died, May 23, of chronic myocarditis.

**Elmer Frederic Kinne,** San Fernando, Calif.; University of Southern California College of Medicine, Los Angeles, 1906; aged 63; died, May 3.

**Samuel Astley Murray** ⊕ Holden, Mo.; St. Louis University School of Medicine, 1906; aged 52; died, May 12, of coronary thrombosis.

**George Patrick McCarthy,** Buffalo; University of Buffalo School of Medicine, 1909; aged 54; died, May 14, of carcinoma of the esophagus.

**Robert Carson Butz,** Pittsburgh; Western Pennsylvania Medical College, Pittsburgh, 1907; aged 50; died, May 4, of angina pectoris.

**Walter L. Wylie,** St. Petersburg, Fla.; Hering Medical College, Chicago, 1897; aged 61; died, May 24, in St. Anthony's Hospital.

**Curtis A. Wherry,** Los Angeles; Kansas City Homeopathic Medical College, 1897; aged 63; died, May 23, of basal skull fracture.

**John Buie,** Hillsboro, Texas; Tulane University of Louisiana Medical Department, New Orleans, 1885; aged 82; died, May 3.

**Rice Knox,** Frost, Texas; Kentucky School of Medicine, Louisville, 1883; aged 82; died, in April, of cardiorenal disease.

**Edgar S. Simpkins,** Middleburg, N. Y.; Albany (N. Y.) Medical College, 1890; died, May 4, of chronic myocarditis.

**James Matthew Van Der Ven,** Moline, Mich.; Long Island College Hospital, Brooklyn, 1891; aged 72; died, May 3.

**William B. Leslie,** Holladay, Tenn. (licensed in Tennessee in 1889); aged 83; died, May 23, of chronic myocarditis.

**James S. McGeachy,** Chipley, Fla.; North Carolina Medical College, Charlotte, 1897; aged 67; died, May 11.

**P. Magenheimer,** Chandler, Ind.; Medical College of Indiana, Indianapolis, 1880; aged 85; died, May 28.

**John B. Norris,** Dallas, Texas; St. Louis College of Physicians and Surgeons, 1901; aged 62; died in May.

**Stacy C. Youngman,** North Kansas City, Mo.; Omaha Medical College, 1884; aged 80; died, May 14.

**S. R. Hickson,** Fairfax, S. C.; Memphis (Tenn.) Hospital Medical College, 1901; aged 60; died, May 12.

**Arthur L. Murphy,** Toronto, Ont., Canada; Trinity Medical College, Toronto, 1892; died, May 13.

# Correspondence

## "GARLIC BREATH ODOR"

*To the Editor:*—In THE JOURNAL, August 8, appears an article by Blankenhorn and Richards on garlic breath odor which calls to mind an interesting experience of my own, having direct bearing on their contention that such odors are blood borne. When I was an intern at the Kings County Hospital in June 1933 I delivered a woman who had a very decidedly obnoxious garlic odor to her breath. Shortly after the birth the infant was removed to another room and on bending over it to apply silver nitrate to the eyes I was surprised and rather amused to note that the child also had a strong garlic breath odor.

On occasion I have mentioned this to other men and they usually think that I am attempting to be facetious. However, I think this offers an interesting way of corroborating the authors' theory and I am sure that it must be easier to find a garlic eating mother for experiment than a patient with a tracheal fistula.

WILLIAM CURRY MOLONEY, M.D.,
Jamaica Plains, Mass.

## DOG BITES

*To the Editor:*—On page 433 of THE JOURNAL for August 8, Mr. Albert Payson Terhune is quoted as saying that the bite of a healthy dog is only as dangerous as would be a similar wound inflicted by a piece of metal or bone. This is not quite right. I am so fond of Mr. Terhune and his wards that the quotation may be revised. Canines give a vigorous shake to a bite, meaning technically a bruised and lacerated penetrating wound. This would mean débridement in surgical principle plus first aid with chlorine preparations or, better yet, the U. S. P. camphorated oil that saved the lives of patients with compound fracture or opened knee joints in the practical work of our grandfathers in medicine.

ROBERT T. MORRIS, M.D., Stamford, Conn.

## THE NAMING OF MEDICAMENTS

*To the Editor:*—At the Annual Session of the American Medical Association in Kansas City I discussed briefly the nomenclature of therapeutic substances. The interest I found in the Section on Pharmacology and Therapeutics encourages me to draw your attention and perhaps the attention of some readers of THE JOURNAL to this matter. Especially I dealt with the troubles arising from the fact that the same effective substance is called often by different terms. Thus, it happens frequently that the same substance is known in different countries by different names. Furthermore, in the same country different physicians administer the same drug with different names without sufficient information about this fact. Trademarks through advertising become the common terms for the efficient molecules. The efficient work of your Council on Pharmacy and Chemistry, preventing special names for products except those originated by the discoverer of any preparation, is not effective in foreign countries. Terms proposed by your council are sometimes protected as brands in foreign countries. Experience has shown that as a consequence of this state many papers about the matter of action or the therapeutic value of a new preparation may not be understood in other countries or sometimes even in other parts of the same country, because there another term for the same active principle is better known.

A different matter of nomenclature is the question of therapeutic suggestiveness of a term for a new drug. It should be possible, I think, to avoid any objection on account of the therapeutic suggestiveness and to find nevertheless a name for the purpose of scientific literature and international understanding for each new substance.

In my opinion it is urgent to have a single distinct name for each distinct substance and to use only this name in all scientific papers of the world. But an agreement with all individuals and communities interested in a special case would not be accomplished without establishment of an international organization or committee. My proposal, therefore, is to establish an international committee studying these problems and elaborating a project of proceeding.

WOLFGANG HEUBNER, M.D., Berlin, Germany.
Professor of Pharmacology and Director
of the Pharmacologic Institute of the
Friedrich-Wilhelms University.

## SALMONELLA

*To the Editor:*—Research work on Salmonella suipestifer as the cause of a specific enteritis in swine inclines me to a large interest in the relationship of this organism to diseases of man. The interesting case report of Drs. Cohen, Fink and Gray in THE JOURNAL, August 1, is greatly appreciated. If I may presume to do so, however, I should like to call to the attention of the authors a misstatement of fact so far as veterinary science is concerned. They say that "until the World War the Salmonella suipestifer organism was known to be the cause of hog cholera." The cause of hog cholera has been known for more than thirty years to be a filtrable virus.

It is true that forty years ago Salmonella suipestifer (Ann. Rep. B. A. I., 1885-1889; Special Report B. A. I., Salmon, 1889) was regarded by many as the cause of hog cholera, but the work by Dorset, McBryde and de Schweinitz (U. S. D. A., B. A. I., circ. 41, 1903; Bull. 72, 1905) definitely disproved this and showed that a filtrable agent is the cause of hog cholera and that Salmonella suipestifer is rather a common associate of the virus. My own work (*J. A. Vet. M. A.* **25**: 34-89 [Oct.] 1927; **27**:345-356 [Feb.] 1929) proves definitely that Salmonella suipestifer is the specific agent of an enteric disease of swine, sometimes associated with cholera but oftener not.

CHARLES MURRAY, Ames, Iowa.
Acting Dean, Division of Veterinary
Medicine, Iowa State College.

## ZIPPER TRAUMA

*To the Editor:*—On a hot Sunday afternoon a man about 28 years of age walked into my office in a topcoat and looking rather embarrassed. The situation became clear when he explained that he neither could raise nor lower his trousers, as his penis was caught in the zipper.

Examination revealed the dorsal portion of the prepuce and part of the glans caught in the zipper. The penis was cleansed thoroughly and the part caught in the zipper was infiltrated with procaine-epinephrine. A catheter was placed in the penis and a triangular wedge was cut out of the glans in order to loosen it. The urethra was not injured. The prepuce was then freed. The edges of the glans were approximated with two silk sutures; the prepuce required five sutures.

The wound healed without eventualities and five days later the stitches were removed.

In this civilized era the automobile has given us some typical fractures of the lower extremities, the airplane the "pilot's neurosis" and now comes the sartorial danger—the zipper.

MYRON V. SUSSKIND, M.D., Jackson, Mich.

# Queries and Minor Notes

THE ANSWERS HERE PUBLISHED HAVE BEEN PREPARED BY COMPETENT AUTHORITIES. THEY DO NOT, HOWEVER, REPRESENT THE OPINIONS OF ANY OFFICIAL BODIES UNLESS SPECIFICALLY STATED IN THE REPLY. ANONYMOUS COMMUNICATIONS AND QUERIES ON POSTAL CARDS WILL NOT BE NOTICED. EVERY LETTER MUST CONTAIN THE WRITER'S NAME AND ADDRESS, BUT THESE WILL BE OMITTED ON REQUEST.

## PROPHYLAXIS FOR SYPHILIS

*To the Editor:*—What prophylaxis would you recommend for intercourse without a condom to prevent syphilis? If a mercury ointment is recommended, what per cent do you suggest? Should only the penis, or contiguous areas as well, be covered with the ointment? About what quantity should be used, and for how long should it be massaged into these areas? How frequently may the average individual use this method of prophylaxis without local or systemic danger because of the absorption of mercury? Please omit name. M.D., New York City.

ANSWER.—The system of chemical prophylaxis used in the United States Army is adequate for the prevention of syphilis if applied within an hour of exposure. This consists of:

(1) A careful washing of the entire genitalia with soap and warm water;

(2) The intra-urethral injection of a 2 per cent solution of strong silver protein or a 10 per cent solution of mild silver protein, retained within the urethra for five minutes (for the prevention of gonorrhea);

(3) The use of 33⅓ per cent calomel ointment in the amount of 4 Gm., rubbed not only on the penis, but also contiguous areas as well (i. e., scrotum and pubis) for a period of ten minutes, timed by a watch. Following this, the genitalia are wrapped in toilet paper and the ointment is allowed to remain in situ for several hours.

There would probably be no danger of mercury poisoning either locally or generally if this form of treatment were used daily.

## DIAGNOSIS OF SYPHILIS

*To the Editor:*—A man had numerous exposures for many months with a girl who developed secondary syphilis with an eruption and a 4 plus Wassermann reaction before either knew that anything was wrong with her. He developed a small penile sore, which he described as a "low cut," which healed in four days without treatment. Then he discovered that the girl was infected and went to his local doctor, who gave him one intravenous injection of 0.4 Gm. of neoarsphenamine followed by five weekly intramuscular injections of bismuth salicylate, the last of which was given six weeks ago. The sore developed January 1 and weekly blood tests have all been negative, the last made day before yesterday, six weeks after the last injection of bismuth salicylate. He is very much worried and does not want to take further treatment without knowing whether he was really infected or not. Should I advise active treatment on the assumption that he was infected and leave that uncertainty in his mind or should I take weekly blood tests and wait to see whether the blood becomes positive or not? How long would this small amount of treatment give negative Wassermann reactions? The man is over 50. What treatment would be best fitted for him? Please omit name and address. M.D., Washington.

ANSWER.—This inquiry calls attention to the malicious practice of making a diagnosis of a penile lesion only by inspection. In this case it appears that the original diagnosis of a chancre was made on circumstantial evidence, a procedure that is subject to severe criticism when in this day the facilities for laboratory confirmation are available to almost all physicians. It is true that the earlier a chancre is recognized and the proper treatment is instituted the better are the results from treatment.

This does not mean, however, that a diagnosis of acute syphilis should be made on a hunch or the mere fact that a lesion was observed on the penis. The difference in the results from treating a chancre three days old and one a week old are not great enough to hazard such a diagnosis and subject a patient to a course of unnecessary treatment on such slim evidence. Neither is the fact that the consort was known to have early syphilis sufficient reason for instituting treatment in this man, because it is not uncommon for syphilologists to see individuals who have been exposed to persons with acute syphilis and who have had willy-nilly prophylaxis not acquire the infection. It is the practice of some physicians in situations such as this to return the patient to the doctor who made the original diagnosis and have him continue as he sees fit; the basis for this procedure is that the second physician, while he is not able to confirm the diagnosis, neither is now able to refute the fact that the patient may have had a chancre.

The evidence presented by the inquirer would indicate that a chancre was not present, because although possible it is not probable that the small amount of treatment given the patient would prevent the Wassermann reaction from becoming positive by this time. One of two procedures may be adopted: either continue observing the patient weekly and taking a Wassermann test once a week for the next two months and then once a month for six more months, or continue treating him for acute syphilis by the use of a continuous system of treatment with arsphenamine and a bismuth compound. It would seem that the first course is the one indicated.

## THIRD GENERATION SYPHILIS

*To the Editor:*—In a family with syphilis there are cases of congenital syphilis even in the third generation, inherited from the mother, who also has congenital syphilis. The husbands of two of the girls with congenital syphilis have negative blood tests and no history of ever having had syphilis. I understand that a man cannot contract syphilis from a woman that has congenital syphilis. Is this correct? Syphilis was first acquired by the father with a penile chancre three years before marriage, the history of the sore being obtained from him a few days before he died at the age of 60, from coronary thrombosis and syphilitic aortitis. He never realized that he had syphilis and never had been treated. His wife is now 56 years of age and has hypertension of 250/130 and has had two severe attacks of acute pulmonary edema that required phlebotomy. There is no other evidence of cardiovascular syphilis or involvement of the central nervous system. She and her husband both gave two positive Hinton and Wassermann tests on their blood. The mother's first pregnancy terminated in an apparently normal full term girl, now 28 years of age with no signs or symptoms of syphilis except positive blood tests; she also has pulmonary tuberculosis and has two girls aged 9 and 7 years, who also have positive blood tests but are apparently normal children except that the 9 year old girl has Hutchinson's teeth. The mother of these two had only two pregnancies. The second pregnancy of the original mother was terminated with an apparently normal full term child, now 27 years of age, and she has a boy 8 years of age resulting from her first and only pregnancy. The boy is apparently in good health but he and his mother both have positive blood tests. This mother also is in good health. The third, fourth, fifth and sixth children of the original mother all have negative blood tests and none of them show any clinical evidence of syphilis. One of these girls has had an apparently normal full term baby with negative cord blood. The original mother did have an abortion between the third and fourth children and one between the fifth and sixth but never had a miscarriage or stillborn or premature birth and, as said before, never received any treatment. In fact, no one in the entire family knew that syphilis existed and consequently none had ever received any treatment. I have not done any spinal punctures yet, nor any bone or heart and aorta roentgenograms. None have any signs or symptoms of clinical syphilis except one 9 year old girl, as previously mentioned, with Hutchinson's teeth, and the original mother with acquired syphilis, having hypertension and subject to attacks of acute pulmonary edema. The questions I am most interested in are, Whom should I do spinal punctures on, and what x-ray examinations are necessary? Should spinal punctures be done on those with negative blood and how many negative blood tests should one get to rule out congenital syphilis? Is it likely that any of the girls with negative blood might later have a child with congenital syphilis? Is it usual or unusual for the first mother to have had no miscarriages but for the first three pregnancies to be full term, the first two with positive blood and the other four children to have negative blood, even though the mother was never treated? I expect to do spinal punctures on the first two grown daughters with congenital syphilis, and if the fluid is negative should they receive any treatment and if so please outline the treatment, remembering that one has pulmonary tuberculosis, which is at the present fairly well arrested. I have been told that, if a patient with congenital syphilis goes beyond the age of puberty without any signs or symptoms of the disease, treatment is not necessary. What treatment should the three young children in the third generation receive? It will be rather difficult to give neoarsphenamine, as they will probably not be very cooperative. What is the consensus by well recognized authorities on the use of stovarsol in such cases? Should the original mother with hypertension receive any treatment? M.D., New Hampshire.

ANSWER.—Third generation syphilis may occur but is exceedingly difficult to establish with certainty. It is relatively infrequent. Among 171 children born to eighty-eight congenitally syphilitic mothers in one large syphilis clinic of the country, only eight of the infants themselves had syphilis. This is of course far below the expected incidence of infantile infection in children born of mothers with acquired syphilis.

In the family under discussion, the fact that the first and second children of the original couple have positive Wassermann reactions and have themselves given birth to congenitally syphilitic infants is not proof of the existence of congenital syphilis in the second of the three generations. In order to establish congenital syphilis in the second generation, stigmas of congenital infection should be present, in addition to the

positive serologic observations. In their absence one cannot rule out the possibility of an acquired infection in the two women of the second generation.

It is true that a man cannot contract syphilis from an adult congenitally syphilitic woman.

Spinal fluid examinations should be done on the two syphilitic mothers of the second generation and on the three syphilitic children of the third generation. In the absence of physical signs suggesting neurosyphilis, it is not necessary to do spinal fluid tests on any of the seronegative members of this family. It is unwise to examine the spinal fluid in the grandmother, whose cardiovascular condition is not due to syphilis and is sufficiently grave as to be the most important element in the picture.

X-ray examinations of the cardiovascular stripe might profitably be done in the grandmother and in the two mothers of the second generation. They are not necessary in the children of the third generation, since the heart and arota are practically never involved in congenital syphilis.

It is highly improbable that any of the girls of the second generation with negative blood tests will subsequently have syphilitic children unless they themselves acquire syphilis before the babies are born.

It is not unusual for the sequence of pregnancies to have occurred as in the original mother without miscarriages or stillbirths, with the early children syphilitic and the later children normal. Kassowitz's law is to the effect that the virulence of syphilis for the child decreases with the duration of infection in the mother, and that after the lapse of a sufficient time interval, usually fifteen to twenty years, a syphilitic woman may bear normal children.

It is not true that, if a case of congenital syphilis goes beyond the age of puberty without signs or symptoms, treatment is unnecessary. On the contrary, congenital syphilis remains completely latent much less frequently than the acquired infection, and any congenitally syphilitic person should be treated regardless of the age at which his infection is discovered.

The original mother with hypertensive heart disease had probably better not receive any antisyphilitic treatment, in view of the gravity of her nonsyphilitic heart condition.

The older daughter of the second generation with pulmonary tuberculosis should be treated by the methods outlined by Padget and Moore in the *American Review of Tuberculosis* (**33**:10 [Jan.] 1936).

The next daughter of the second generation should be treated in accordance with the principles outlined in chapter 17 of Moore's monograph "The Modern Treatment of Syphilis," Springfield, Ill., C. C. Thomas, 1933.

The three young children of the third generation should be treated in accordance with the principles outlined in chapter 28 of Moore's monograph. Sulfarsphenamine may be used in place of neoarsphenamine.

The use of acetarsone (stovarsol) by mouth in any form of syphilitic infection, congenital or otherwise, is distinctly in an experimental stage and is not to be advised for general use.

## LOCAL ANESTHETICS

*To the Editor:*—I am interested in securing data on local anesthetics of prolonged action. I am interested particularly in securing anesthesia of twenty-four hours or longer. What is the duration of anesthesia of anucaine, and quinine and urea?

M.D., Massachusetts.

ANSWER.—Ever since the introduction of procaine hydrochloride for anesthesia by infiltration and nerve block, attempts have been made to prolong its prompt but evanescent action. Epinephrine in 1:1,000 solution, 3 drops to the ounce of 1 per cent procaine solution, prolongs the anesthesia of an intradermal wheal from fifteen minutes to over two hours. It has been shown that the higher the concentration of the free base of the local anesthetic, the more rapid and prolonged will be the action as only the procaine base penetrates into the nerves. The recognition of this principle resulted in the preparation of borates, bicarbonates and phosphates of procaine instead of the hydrochloride in order to increase alkalinity and increase hydrolytic dissociation of the procaine. In practice, especially in anesthesia by infiltration, no appreciable difference could be noted between the chlorides and the weaker acids, but in blocking nerve trunks there seemed to be a small but definite prolongation of anesthesia when using the procaine in a buffered solution.

Quinine and its derivatives, isoamylhydrocupreine (eucupin) and nupercaine have been advocated to prolong the duration of local anesthesia. Quinine and urea hydrochloride in from 0.5 to 1 per cent solution has been especially used for rectal work and for tonsillectomies to alleviate postoperative pain. A 2 grain (0.13 Gm.) tablet may be dissolved in an ounce (30 cc.) of water, making approximately an 0.8 per cent solution. When used by interdermal infiltration, the anesthesia may last a week. It produces, however, a definite damage to the tissues, may result in long lasting indurations and, if not used sparingly, in sloughing. The same may be said, to a lesser degree, of isoamylhydrocupreine (eucupin), which was used in 1:1,000 concentration. Both these drugs have been superseded by nupercaine, which if used in dilutions above 1:500 does not seem to irritate the tissues. Its toxicity, however, is greater than that of cocaine and its use is gradually diminishing except as a surface anesthetic in certain special fields, as ophthalmology and urology.

Pantocain, a cocaine derivative, produces in 1:1,000 concentration an anesthesia which is approximately of double duration as compared with that of procaine. Its value lies especially in spinal anesthesia, if an anesthesia of over one hour to an hour and a half is required.

There are a number of other local anesthetics appearing on the market. In estimating their value it is safe to say that the prolongation of the anesthesia produced by procaine is justifiable only to ensure a painless operation of longer than the average duration. As tempting as it is to alleviate postoperative pain by local anesthetics, any drug that produces a twenty-four hour anesthesia or analgesia must seriously depress protoplasmic activity, interfere with the healing of wounds or produce degeneration in the peripheral nerves or roots. The alleviation of postoperative pain by general sedatives, analgesics and hypnotics seems safer at present than the production of a local analgesia of long duration.

## INTERMITTENT TREATMENT OF SYPHILIS IN RURAL AREAS

*To the Editor:*—In isolated sections it is often difficult to give weekly injections of neoarsphenamine. In some cases this would require over 100 miles in travel to come for treatment. In winter time even patients nearer by are often blocked with snow drifts. What kind of results would you expect if only one or two injections of arsenic or the heavy metals were given each month, if treatment by mouth was continuous, and what drugs by mouth would you advise? Many of these patients will not take the trouble of mercury inunctions, and bath tubs are usually not available. In case Wassermann and Kolmer tests are negative but the Kline test is positive, does that account an official diagnosis of syphilis? I have seen the wife give a four plus Wassermann reaction but the husband only a two plus Kline, with other tests negative. How would you weigh the balance between intermittent treatment of syphilis and none at all? Some of the people who need treatment must rove about a great deal and are hard to find. I carry sterile syringes around with me and like to give treatment whenever I find them, trying to persuade them to take regular treatment by mouth, if regular injections are not possible. Will you kindly advise on these problems? About two years or more ago in Queries and Minor Notes you rated the possible percentage of syphilis that was negative on all serologic tests as approaching one third, as I remember it. How would you sum up our present knowledge of this point now? Please omit name and locality.

M.D.

ANSWER.—Treatment for syphilis is conditioned not alone by the drugs used and by their mode and route of administration but by the stage of the disease, the type of involvement and the reactions of the patient. It is definitely dangerous and disadvantageous in a considerable proportion of cases to give the arsphenamine group of arsenicals in inadequate dosage or at long intervals, especially in early syphilis. A monthly injection of neoarsphenamine intravenously would therefore be as likely to result in trouble for the individual and relapse in infectiousness for the population contacts at large as any procedure that could be followed. In circumstances such as the correspondent describes in which injections of an arsenical can be given once a month, it would not be unreasonable or impossible, provided the patients are cooperative, to revive the old method of intramuscular administration of arsphenamine, long used by Richard L. Sutton of Kansas City in his practice and described in several of the earlier editions of his Textbook of Dermatology and quoted by Stokes (Modern Clinical Syphilology, ed. 1, Philadelphia, W. B. Saunders Company, 1926, p. 200). While this method is somewhat painful and lays the patient up for perhaps a day, the discomfort is to some extent controllable, and the intramuscular administration of arsphenamine has always had a deserved respect. Such a procedure as this is not advocated for the use of any arsphenamine intravenously or for the more rapidly absorbed and eliminated arsphenamine modifications such as sulfarsphenamine and neoarsphenamine intramuscularly, as they do not establish significant absorption depots.

There can be no substitute for mercurial inunctions for patients who are "frozen in." If the clean inunction technic of

Cole and his associates is employed, the use of the bath tub becomes relatively unnecessary and the dosage can be adjusted by a little experience, so that with even an approach to reasonable mouth hygiene, salivation can be prevented even in long inunction courses. Washing the mouth twice daily with 30 cc. of water to which has been added a few drops of a mixture of one part tincture of kino and two parts tincture of myrrh will assist materially in keeping the gums in good condition, and the solution can be painted full strength on the gums when this seems desirable. The essence of the clean inunction consists in a full thirty minutes of rubbing in of the ointment over the chosen sites, followed by cleansing the skin with benzine or naphtha, or even a quick sponging with a good grade of gasoline. A good sweat in blankets can be taken weekly. It has also been shown that it is possible to give an inunction over the entire body once a week and secure adequate mercurialization in this way. A belt or girdle on which ointment is smeared has been used by the U. S. Public Health Service. From every standpoint, this is one of the safest forms of treatment known. It must be understood, however, that mercury does not control infectiousness and that bismuth compounds are relatively less effective than an arsphenamine. Probably the best combination under difficult circumstances would be rather large doses of potassium bismuth tartrate in oil suspension, alternating with arsphenamine intramuscularly as suggested.

It should be clearly understood that mercury by mouth, whether intermittently or continuously given, is of no value so far as curative effects or control of infectiousness is concerned, in the overwhelming majority of cases of early syphilis. It is likewise relatively ineffective in the later complications of the disease and of no use whatever in syphilis of the nervous system.

The question as to whether a positive Kline test with a negative Kolmer or other form of Wassermann test can establish the diagnosis of syphilis must be considered on the merits of the individual case, taken as a clinical whole. In general, however, it may be said that a properly performed Kahn test has an exceedingly small margin of error and should be taken very seriously. In all cases it is desirable to repeat a positive serologic test by whatever technic, for confirmation purposes.

The intermittent treatment of syphilis, while less effective than continuous treatment, especially in the early phases of the disease and in early latency, cannot be rated as wholly ineffective. There are a number of aspects of the disease in which it is the desirable form of treatment, including late latency and late manifestations of various kinds, including visceral and cardiovascular syphilis and late tabetic neurosyphilis. For the proper interpretation of considerations of this sort, the study of one of the standard textbooks is advised. The correspondent is recommended to the division of venereal diseases of his state board of health, if there is one, for cooperation which can be furnished by traveling therapists, who in highly organized state venereal disease services can do much to make treatment available to relatively isolated persons and communities.

The estimation of one third of all syphilis as negative to all serologic tests is certainly too high for the present highly sensitive and highly specific procedures such as the Kahn, Kline and Kolmer-Wassermann tests. The proportion of positives obtained should range from very close to 100 per cent in florid secondary syphilis and dementia paralytica to perhaps 78 to 85 per cent in some aspects of cardiovascular and late neurosyphilis or neurosyphilis characterized by highly localized lesions.

## POOLED HUMAN CONVALESCENT SERUM FOR POLIOMYELITIS

*To the Editor:*—Will you kindly advise me if the serum mentioned in your editorial on "Serum Treatment of Acute Poliomyelitis" is commercially available and, if so, where? Would you repeat the intraspinal dose; if so, how often? SAM J. HOOPER, M.D., Jackson, Miss.

ANSWER.—The serum mentioned is pooled human convalescent serum. This preparation is available only through serum centers established by private donations and through municipal and state health departments. We are not aware of an available source in the South but would suggest that the correspondent direct an inquiry to the state health department. In the state of Illinois such serum is furnished gratis under the auspices of the state department of public health and by the Samuel Deutsch Serum Center at the Michael Reese Hospital. There are other sources available in other state and municipal health departments in the Middle West, in the East and in California.

The dose of pooled convalescent human serum recommended at present is from 10 to 20 cc. given intraspinally and 100 cc. intravenously at the time of diagnosis. The former amount is given at the time of the diagnostic spinal puncture. In the event that further serum is needed, an additional 100 cc. is given intravenously from ten to twenty-four hours later. In instances of acute bulbar poliomyelitis, the dosage recommended is 200 cc. intravenously and from 10 to 20 cc. intraspinally. The latter type is a fulminating disease carrying a high mortality, said to be from 70 to 90 per cent without treatment. There are indications that the mortality is affected favorably by convalescent human serum, but the results are not as striking or gratifying as in the spinal types of the disease.

In the event that there is no serum at present available in the correspondent's locality, any laboratory approved for the manufacture of serum by the United States Public Health Service would be equipped to prepare such a product.

## TREATMENT OF LATENT SYPHILIS

*To the Editor:*—A woman, aged 23, has been under treatment eighteen months for latent syphilis. At the age of 16 she had a nervous breakdown. It was discovered that the Wassermann reaction was 4 plus. She was then given treatment for a short while. At the age of 22 the Wassermann reaction was 4 plus and the Kahn reaction 4 plus. Jan. 17, 1935, I first saw her and gave her weekly injections of 0.45 Gm. of neoarsphenamine for a period of six weeks. February 28 I gave her weekly injections of bismuth subsalicylate 2 grains (0.13 Gm.) for six weeks; April 16, neoarsphenamine, 0.45 Gm. for six weeks, weekly; May 18, bismuth subsalicylate 0.13 Gm. weekly for six weeks; June 29, neoarsphenamine 0.45 Gm. weekly for six weeks; August 15, bismuth subsalicylate 0.13 Gm. weekly for six weeks; October 10, neoarsphenamine 0.45 Gm. weekly for six weeks; December 4, bismuth subsalicylate 0.13 Gm. weekly for six weeks; Jan. 16, 1936, neoarsphenamine 0.45 Gm. weekly for six weeks; March 6, bismuth subsalicylate 0.13 Gm. weekly for six weeks; April 1 a spinal tap was negative for syphilis; April 21, weekly injections of neoarsphenamine 0.45 Gm. for six weeks; June 8, bismuth subsalicylate 0.13 Gm. weekly for six weeks. I should like to know what your opinion is as to whether this young girl should marry or not. Her plans are to do so but she first consulted me as to my opinion. Also advise as to whether I should continue treatment.

A. A. LICHTBLAU, M.D., Canton, Ohio.

ANSWER.—It is not easy to answer this query, as there is insufficient information. No mention has been made of following Wassermann tests on the blood to note the response of the patient to treatment. Moreover, no mention is made of physical examination and its results. This would have quite a lot of bearing on the case, especially if one was to find an aortitis, which is quite often the sequel of an untreated case of syphilis of this type. If careful physical examination shows no evidence of syphilis in the presence of a negative spinal fluid, there should really be no reason why the patient should not get married.

It probably would be well for her to continue the alternating treatment of six injections of neoarsphenamine and six injections of bismuth subsalicylate that she is now on up to a full two years, provided she stands the treatment satisfactorily and she should be given eight intramuscular injections of a bismuth compound every six months for the following two years.

In case she becomes pregnant, since there is danger of passing a latent infection of this type on to the fetus, even when there is no danger of anybody else contracting the disease, it would be well to give her vigorous treatment throughout the pregnancy, consisting of the continuous form of treatment beginning with a course of arsenicals, followed with a course of bismuth and ending with a course of arsenicals.

Naturally a patient of this type should be kept under observation and have a routine physical examination every year, the same as is being advocated for every one, and along with this careful check on the cardiovascular system and a blood Wassermann and precipitation test.

## SYPHILIS IN INFANCY

*To the Editor:*—A multipara delivered a baby six months ago. The Wassermann report on her at the time was 4 plus. The report on the baby, from blood taken from the heel, was 4 plus. A report taken by another doctor now is negative without any treatment since birth. Which report should be believed? Do syphilitic babies ever develop an immunity as indicated by these tests? Please omit name. M.D., Washington.

ANSWER.—Wassermann positive blood of a mother may be transmitted through the placenta to the infant, so that blood taken from the infant shortly after birth may be Wassermann positive while the infant need not be syphilitic. Such a Wassermann reaction may become negative not because the infant develops a spontaneous immunity but because the antibodies derived from the mother disappear. It would be well, though, to recheck the baby's blood by Wassermann and flocculation tests.

## HAZARDS OF DYE INDUSTRY

*To the Editor:*—A man, aged 30, recently had mild symptoms of gastro-enteritis. He has been working for the past year in a dyeing plant. The dyes used are seristan black B, silk brown A, pontamine sky blue F. F., pontamine green B. X., pontamine pink G (manufactured by Dupont), pontamine violet B, pontamine yellow W. B. F., scarlet 4 B. S. W. and cyanine C. R. (manufactured by Sandoz). Would any of these dyes be harmful to health on inhalation? The air in the room is heavily laden with the dyes and no ventilating fans are used. Please omit name.

M.D., New York.

ANSWER.—Generally speaking, coal tar dyes freed from raw material and intermediates may be said to hold little prospect of injury for the dye worker. A few exceptions are to be recognized, such as skin disease from many dyes, damage to the cornea from certain dyes, such as methyl violet, and bladder tumors, from a group of dyes including benzopurpurine and benzidine. It is somewhat unlikely that in a dye house any large quantity of the dye would reach the atmosphere. While coal tar dyes may be regarded as only rarely responsible for systemic diseases, the operation of dyeing may provide many hazards. Apart from specific skin disease, the occupational diseases associated with dyeing largely are from mixed intoxicants. Dusts may arise from the fabric being prepared for dyeing. Various bleaching agents may be in use, including sulfuric acid, alkalis, sodium chloride and chlorinated lime. Various mordants may prove to be more toxic than the dyes themselves. The dye solution may be associated with various alcohols, acids and alkalis. More often than not, steam is present in the dye room, thus introducing the hazard both of high temperatures and of high humidity. In certain types of dyeing, especially dyeing by printing, a variety of glues, caseins and glutens may be utilized. Dyeing is at times imperfect, calling for the removal of stains, the stripping of the dye and the cleaning of the fabric. This may lead to the introduction of a variety of toxic agents, including carbon tetrachloride, trichloroethylene, naphtha, benzene and hydrofluoric acid. Drying and ironing are irregularly associated with dyeing but when present contribute to high temperatures frequently found in dye houses. Prior to the dyeing of some silk fabrics, lead compounds may be introduced for weighing purposes.

Dye workers are prone to suffer from digestive disturbances, arthritides and respiratory disturbances and, if fatigue may be regarded as a disease, this disease may stand at the top of the list. By and large, high temperatures, high humidities, wetness and nauseating odors furnish a greater number of disorders among workers in the dyeing industry than (with the exception of skin disorders) may be traced to the action of specific dyes. The mention in this query of a dye worker suffering from "mild symptoms of gastro-enteritis" is not a rarity. To the contrary, in some dye houses most of the exposed workers are from time to time so afflicted.

## HAY FEVER

*To the Editor:*—I have a patient who suffers from hay fever (ragweed) every fall. The usual serum treatment has not been very effective. Last fall she was given one injection which, as she says, made her terribly sick for a day and a half and then all her symptoms were gone. What was the substance used and what is the theory of treatment? Would artificial fever do this? Kindly omit name.

M.D., Ontario.

ANSWER.—The relief given in this case may have been due to the fact that the injection was given near the end of the season when the symptoms would normally disappear. Or a foreign protein may have been given in a large enough dose to cause a constitutional reaction. This sometimes produces relief. Artificial fever has not been found useful in the treatment of pollinosis.

## BLOOD SUGAR LEVELS

*To the Editor:*—In THE JOURNAL, Aug. 17, 1935, there is an article on page 484 entitled "Hyperglycemia." In reading this article one gets the impression that the normal blood sugar should be from 100 to 140 mg. per hundred cubic centimeters of blood. Does this mean on a fasting diet? My impression has been that the normal sugar level on a fasting diet should be between 60 and 120 mg. I would appreciate your explanation of this article, which is quite confusing. What is the consensus at present with regard to the highest blood sugar that would be considered within normal limits? Please omit name.

M.D., New York.

ANSWER.—The blood sugar levels on fasting should be between 100 and 120 mg. per hundred cubic centimeters of blood, and after meals no higher than 140 mg. While these are the figures accepted as normal, it must be realized that averages do not necessarily constitute normality and that there are many variations from these figures. When the blood sugar is lower than 100 mg. it usually indicates that the diet is fairly low in sugar or that there is a tendency at least to a hypoglycemia associated with some endocrine disturbance. A blood sugar of 60 mg. would certainly be considered in the hypoglycemic range. Higher blood sugars frequently occur in apparently normal individuals, especially persons over 50 years of age.

## PAIN IN POLIOMYELITIS

*To the Editor:*—Please describe in THE JOURNAL the types of pain characterizing anterior poliomyelitis. I have seen no adjectives preceding the word "pain" in any of the references read. If this description is unavailable, probably in the near future I shall be able to furnish one from my recent personal attack.

W. J. OWINGS, M.D., Brent, Ala.

ANSWER.—Pain is not a prominent symptom, as a rule, in an early acute attack of poliomyelitis. While headache is common at the onset it is not generally severe, as in meningitis. The muscles, however, are hypersensitive. It is for this reason that the average patient resents handling and desires to be left alone. Manipulations of the extremities may cause pain. The "ventral flexion sign," which is elicited by bending the head and body foreward toward the knees, often results in the patient complaining of sharp pain along the spinal column.

After the acute stage of the disease, contractures of muscles, particularly the flexor groups, are the sources of most painful sensations.

In the early stages of poliomyelitis, pain not induced artificially is usually described as being dull. Later in the attack, pain attributed to contractures is more lancinating in character.

## POLLEN AT MIAMI

*To the Editor:*—I would appreciate it very much if you would let me know what your opinion is with regard to Miami Beach, Fla., for hay fever and pollen asthma. For the past few years I have been going north and recently have heard that Miami Beach has a lower pollen count. Do you advise it for pollen asthma? I am a ragweed sufferer, beginning August 15. I should like to go to Miami Beach, because I take my 10 year old son with me, and the sun would do him so much good.

M.D.

ANSWER.—No local pollen record has been published for Miami Beach, but atmospheric pollen studies have been made at the weather station in Miami and at a private residence in Coral Gables. A very small amount of ragweed pollen appeared on the slides at Coral Gables but only a trace at Miami. The difference is no doubt due to the fact that the slides at Miami were exposed closer to the shore than those at Coral Gables. Miami Beach is some three miles father away from the few ragweeds that grow in the truck garden areas.

The total number of pollen grains found at Miami during a whole ragweed season was only eight. The significance of this may be easily appreciated by remembering that in central Indiana the average yearly count is considerably more than 10,000 pollen grains. Nineteen points on the Atlantic and Gulf coast, from Eastport, Maine, to Tampico, Mexico, have been studied by means of atmospheric pollen counts. Of these the Miami station is by far the best.

## PHARMACOLOGIC AND THERAPEUTIC PROPERTIES OF COBRA VENOM

*To the Editor:*—In THE JOURNAL, July 11, under Queries and Minor Notes, page 153, is printed an Illinois physician's question regarding "the use of snake venom in the control of pain, as in carcinoma, when morphine has lost its control . . . and in controlling hemorrhage, as in prostate or bladder hemorrhage."

To me as an experimental investigator devoting a great deal of time and work to the study of the pharmacologic and therapeutic properties of snake venoms, the reply seems very inadequate.

The use of snake venom for therapeutic purposes may be sharply divided into three categories. The first is the use of the venom of the moccasin (Ancistrodon) for the control of certain hemorrhagic conditions. Noteworthy work on the subject has been done especially by Dr. S. M. Peck and his collaborators.

In the second category is to be considered the use of crotalin, or the venom of the rattlesnake (Crotalus), in the treatment of epilepsy. Both foreign and American writers have published papers on this subject.

Probably the most interesting therapeutic application of snake venom and that concerning which the greatest amount of scientific research has been done is the use of cobra (Naia) venom for the treatment of the severe pains accompanying advanced malignant tumors and some other painful disorders of nonmalignant nature. Most of this work has been done in France at the Pasteur Institute but more recent contributions to the subject are found in German, Spanish and American literature.

D. I. MACHT, M.D., Baltimore.

# Medical Examinations and Licensure

## COMING EXAMINATIONS

### STATE AND TERRITORIAL BOARDS

ALABAMA: Montgomery, June 29-July 1. Sec., Dr. J. N. Baker, 519 Dexter Ave., Montgomery.

ARIZONA: Phoenix, Oct. 6-7. Sec., Dr. J. H. Patterson, 826 Security Bldg., Phoenix.

ARKANSAS: *Basic Science.* Little Rock, Nov. 2. Sec., Mr. Louis E. Gebauer, 701 Main St., Little Rock. *Medical (Regular).* Little Rock, Nov. 10. Sec., Dr. A. S. Buchanan, Prescott. *Medical (Eclectic).* Little Rock, Nov. 10. Sec., Dr. Clarence H. Young, 207½ Main St., Little Rock.

CALIFORNIA: Sacramento, Oct. 19-22. Sec., Dr. Charles B. Pinkham, 420 State Office Bldg., Sacramento.

COLORADO: Denver, Oct. 6. Sec., Dr. Harvey W. Snyder, 422 State Office Bldg., Denver.

CONNECTICUT: *Basic Science.* New Haven, Oct. 10. *Prerequisite to license examination.* Address, State Board of Healing Arts, 1895 Yale Station, New Haven. *Medical.* Hartford, Nov. 10-11. *Endorsement.* Hartford, Nov. 24. Sec., Dr. Thomas P. Murdock, 147 W. Main St., Meriden.

DELAWARE: Dover, July 13-15. Sec., Medical Council of Delaware, Dr. Joseph S. McDaniel, Dover.

DISTRICT OF COLUMBIA: Washington, Jan. 11-12. Sec., Commission on Licensure, Dr. George C. Ruhland, 203 District Bldg., Washington.

FLORIDA: Jacksonville, Nov. 16-17. Sec., Dr. William M. Rowlett, P. O. Box 786, Tampa.

GEORGIA: Atlanta, Oct. 13. Joint-Sec., State Examining Boards, Mr. R. C. Coleman, 111 State Capitol, Atlanta.

HAWAII: Honolulu, Oct. 12-15. Sec., Dr. James A. Morgan, 48 Alexander Young Bldg., Honolulu.

IDAHO: Boise, Oct. 6. Commissioner of Law Enforcement, Hon. Emmitt Pfost, 205 State House, Boise.

ILLINOIS: Chicago, Oct. 20-22. Superintendent of Registration, Department of Registration and Education, Mr. Homer J. Byrd, Springfield.

IOWA: *Basic Science.* Des Moines, Oct. 13. Sec., Prof. Edward A. Benbrook, Iowa State College, Ames.

KENTUCKY: Louisville, Dec. 2-4. Sec., State Board of Health, Dr. A. T. McCormack, 532 W. Main St., Louisville.

LOUISIANA: New Orleans, December. Sec., Dr. Roy B. Harrison, 1507 Hibernia Bank Bldg., New Orleans.

MAINE: Portland, Nov. 3-4. Sec., Board of Registration of Medicine, Dr. Adam P. Leighton, 192 State St., Portland.

MARYLAND: *Regular.* Baltimore, Dec. 8. Sec., Dr. John T. O'Mara, 1215 Cathedral St., Baltimore. *Homeopathic.* Baltimore, Dec. 8-9. Sec., Dr. John A. Evans, 612 W. 40th St., Baltimore.

MASSACHUSETTS: Boston, Nov. 17-19. Sec., Board of Registration in Medicine, Dr. Stephen Rushmore, 413-F State House, Boston.

MICHIGAN: Lansing, Oct. 14-16. Sec., Board of Registration in Medicine, Dr. J. Earl McIntyre, 202-3-4 Hollister Bldg., Lansing.

MINNESOTA: *Basic Science.* Minneapolis, Oct. 6-7. Sec., Dr. J. Charnley McKinley, 126 Millard Hall, University of Minnesota, Minneapolis. *Medical.* Minneapolis, Oct. 20-22. Sec., Dr. Julian F. DuBois, 350 St. Peter St., St. Paul.

MONTANA: Helena, Oct. 6. Sec., Dr. S. A. Cooney, 7 W. 6th Ave., Helena.

NEBRASKA: *Basic Science.* Lincoln, Oct. 6-7. Dir., Bureau of Examining Boards, Mrs. Clark Perkins, State House, Lincoln.

NEW HAMPSHIRE: Concord, Sept. 10-11. Sec., Board of Registration in Medicine, Dr. Charles Duncan, State House, Concord.

NEW JERSEY: Trenton, Oct. 20-21. Sec., Dr. James J. McGuire, 28 W. State St., Trenton.

NEW MEXICO: Santa Fe, Oct. 12-13. Sec., Dr. Le Grand Ward, Santa Fe.

NEW YORK: Albany, Buffalo, New York and Syracuse, Sept. 21-24. Chief, Professional Examinations Bureau, Mr. Herbert J. Hamilton, 315 Education Bldg., Albany.

NORTH CAROLINA: *Endorsement.* Raleigh, Nov. 30. Sec., Dr. Ben J. Lawrence, 503 Professional Bldg., Raleigh.

NORTH DAKOTA: Grand Forks, Jan. 5-8. Sec., Dr. G. M. Williamson, 4½ S. 3rd St., Grand Forks.

OKLAHOMA: Oklahoma City, Dec. 9. Sec., Dr. James D. Osborn, Jr., Frederick.

OREGON: *Basic Science.* Portland, Nov. 21. Sec., Mr. Charles D. Byrne, University of Oregon, Eugene. *Medical.* Portland, Jan. 5-7. Sec., Dr. Joseph F. Wood, 509 Selling Bldg., Portland.

RHODE ISLAND: Providence, Oct. 1-2. Chief, Division of Examiners, Mr. Robert D. Wholey, 366 State Office Bldg., Providence.

SOUTH DAKOTA: Pierre, Jan. 19-20. Dir., Division of Medical Licensure, Dr. Park B. Jenkins, Pierre.

VERMONT: Burlington, Feb. 10-12. Sec., Board of Medical Registration, Dr. W. Scott Nay, Underhill.

VIRGINIA: Richmond, Dec. 9-13. Sec., Dr. J. W. Preston, 28½ Franklin Road, Roanoke.

WISCONSIN: *Reciprocity.* Madison, Sept. 8-9. Sec., Dr. Cornelius H. Cremer, Cashton. *Basic Science.* Madison, Sept. 26. Sec., Prof. Robert N. Bauer, 3414 W. Wisconsin Ave., Milwaukee.

### NATIONAL BOARD OF MEDICAL EXAMINERS

NATIONAL BOARD OF MEDICAL EXAMINERS. *Parts I and II.* Sept. 14-16. Ex. Sec., Mr. Everett S. Elwood, 225 S. 15th St., Philadelphia.

### SPECIAL BOARDS

AMERICAN BOARD OF DERMATOLOGY AND SYPHILOGY: Philadelphia, June. Sec., Dr. C. Guy Lane, 416 Marlboro St., Boston.

AMERICAN BOARD OF INTERNAL MEDICINE: *Written* examination will be held simultaneously in different centers of the United States and Canada in December. *Practical* or *clinical* examination will be given in St. Louis in April. Chairman, Dr. Walter L. Bierring, 406 Sixth Ave., Des Moines.

AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY: Written examination and review of case histories of Group B candidates will be held in various cities in the United States and Canada, Nov. 7. *Applications must be filed at least sixty days prior to the examination.* Sec., Dr. Paul Titus, 1015 Highland Bldg., Pittsburgh (6).

AMERICAN BOARD OF OPHTHALMOLOGY: New York, Sept. 26. Sec., Dr. John Green, 3720 Washington Blvd., St. Louis.

AMERICAN BOARD OF ORTHOPAEDIC SURGERY: Cleveland, Jan. 9. Sec., Dr. Fremont A. Chandler, 180 N. Michigan Ave., Chicago.

AMERICAN BOARD OF OTOLARYNGOLOGY: New York, Sept. 25-26. Sec., Dr. W. P. Wherry, 1500 Medical Arts Bldg., Omaha.

AMERICAN BOARD OF PEDIATRICS: San Francisco, Oct. 22-24. Baltimore and Cincinnati in November. Sec., Dr. C. A. Aldrich, 723 Elm St., Winnetka, Ill.

AMERICAN BOARD OF PSYCHIATRY AND NEUROLOGY: New York, Dec. 29-30. Application must be sent to the Secretary before Oct. 30. Sec., Dr. Walter Freeman, 1028 Connecticut Ave., Washington, D. C.

AMERICAN BOARD OF RADIOLOGY: Cleveland, Sept. 25-27. Sec., Dr. Byrl R. Kirklin, Mayo Clinic, Rochester, Minn.

AMERICAN BOARD OF UROLOGY: Chicago, Dec. 4-6. Sec., Dr. Gilbert J. Thomas, 1009 Nicollet Ave., Minneapolis.

## Kentucky Reciprocity and Endorsement Report

Dr. A. T. McCormack, secretary, State Board of Health of Kentucky, reports 18 physicians licensed by reciprocity and 3 physicians licensed by endorsement from Jan. 16 through July 10, 1936. The following schools were represented:

| School | LICENSED BY RECIPROCITY | Year Grad. | Reciprocity with |
|---|---|---|---|
| College of Medical Evangelists | | (1925) | California |
| Howard University College of Medicine | | (1925) | Missouri |
| Tulane University of Louisiana School of Medicine | | (1914) (1935) | Alabama, Tennessee |
| Johns Hopkins University School of Medicine | | (1923) | Michigan |
| Eclectic Medical College, Cincinnati | | (1935) | Ohio |
| University of Cincinnati College of Medicine | | (1931), (1933), (1935, 2), (1936) | Ohio |
| University of Pennsylvania School of Medicine | | (1933) | Louisiana |
| Univ. of Tennessee College of Med. | | (1931), (1932), (1935, 2) | Tennessee |
| Vanderbilt University School of Medicine | | (1935) | Tennessee |
| University of Virginia Department of Medicine | | (1930) | Virginia |

| School | LICENSED BY ENDORSEMENT | Year Grad. | Endorsement of |
|---|---|---|---|
| Yale University School of Medicine | | (1934) | N. B. M. Ex. |
| University of Louisville School of Medicine | | (1933) | N. B. M. Ex. |
| Duke University School of Medicine | | (1932) | N. B. M. Ex. |

## Kansas June Report

Dr. C. H. Ewing, secretary, Kansas State Board of Medical Registration and Examination, reports the written examination held in Topeka, June 16-17, 1936. The examination covered 10 subjects and included 100 questions. An average of 75 per cent was required to pass. Ninety candidates were examined, all of whom passed. Seventeen physicians were licensed by reciprocity and 1 physician was licensed by endorsement. The following schools were represented:

| School | PASSED | Year Grad. | Per Cent |
|---|---|---|---|
| Georgetown University School of Medicine | | (1933) | 86.6 |
| Howard University College of Medicine | | (1935) | 84.3 |
| Northwestern University Medical School | | (1933) (1935) | 88.2, 88.6, 91.4, (1936) 86.8 |
| Rush Medical College | | (1935) | 90.7 |
| University of Illinois College of Medicine | | (1936) | 90.9 |
| University of Kansas School of Medicine | | (1936) | 81.5, 83.8, 84.1, 84.1, 85.3, 85.4, 85.5, 86.1, 86.2, 86.2, 86.5, 86.6, 86.6, 86.7, 86.8, 86.9, 87, 87, 87.1, 87.4, 87.4, 87.4, 87.7, 87.7, 88, 88, 88, 88.1, 88.1, 88.1, 88.1, 88.1, 88.2, 88.2, 88.4, 88.4, 88.5, 88.6, 88.6, 88.6, 88.7, 88.8, 88.8, 88.9, 88.9, 88.9, 89.2, 89.2, 89.3, 89.4, 89.5, 89.6, 89.7, 89.9, 90, 90.1, 90.1, 90.2, 90.2, 90.3, 90.5, 90.7, 91.4, 91.7, 92.1, 92.4, 92.6, 92.7, 93, 93.5 |
| Harvard University Medical School | | (1933) | 88 |
| Washington University School of Medicine | | (1936) | 93 |
| Creighton University School of Medicine | | (1936) | 86.6, 87.1, 87.1, 87.5, 89.4, 89.5, 90.3 |
| University of Pennsylvania School of Medicine | | (1935) | 87.6, 90.1, (1936) 92 |
| Baylor University College of Medicine | | (1936) | 90 |

| School | LICENSED BY RECIPROCITY | Year Grad. | Reciprocity with |
|---|---|---|---|
| University of Arkansas School of Medicine | | (1932) | Arkansas |
| Loyola University School of Medicine | | (1928), (1933) | Illinois |
| Northwestern University Medical School | | (1929) | Illinois |
| Rush Medical College | | (1931) | Michigan |
| University of Illinois College of Medicine | | (1931) | Mississippi |
| State University of Iowa College of Medicine | | (1931) | Iowa |
| St. Louis University School of Medicine | | (1933) | Missouri |
| University Medical College of Kansas City, Missouri | | (1913) | Missouri |
| Washington University School of Medicine | | (1924) (1933, 2) | Wisconsin, Missouri |
| Creighton University School of Medicine | | (1934) | Nebraska |
| Ohio State University College of Medicine | | (1935) | Ohio |
| Western Reserve Univ. School of Medicine | | (1932), (1933) | Ohio |
| University of Oklahoma School of Medicine | | (1934) | Oklahoma |

| School | LICENSED BY ENDORSEMENT | Year Grad. | Endorsement of |
|---|---|---|---|
| Washington University School of Medicine | | (1933) | N. B. M. Ex. |

# Book Notices

**Neurological Surgery.** By Loyal Davis, M.S., M.D., Ph.D., Professor of Surgery and Chairman of the Division of Surgery, Northwestern University Medical School, Chicago. Cloth. Price, $6. Pp. 429, with 174 illustrations. Philadelphia: Lea & Febiger, 1936.

This book is addressed to the general practitioner in order to put him abreast of the modern development of neurologic surgery. The first chapter is therefore interesting as a statement of the amount of knowledge, in the opinion of the author, which will enable one "to group the important signs and symptoms and accurately localize a lesion." One may have this knowledge and much more and still be unable to localize many lesions of the nervous system. Nevertheless the information given is in the main accurate, although many statements are too dogmatic and need qualifying, such as that "atrophy of the muscles does not occur when the limbs are stiff and spastic." The statement that lesions of the ninth cranial nerve cause dysphagia, particularly of solid food, and regurgitation of liquids is not correct; there is no defect of swallowing following complete transection of the glossopharyngeal nerve. The discussion of the cerebellum is inadequate. The author's attitude toward craniocerebral injuries is in accord with the judgment of qualified surgeons but there will be vigorous dissenters. One might expect, in a book designed primarily for nonsurgeons, more specific directions in many places; e. g., the physician is instructed to use less depressant drugs than morphine, but no substitute is named. Much of the discussion of intracranial tumors sounds strangely familiar, even to entire sentences, but curiously enough, in contrast to the others, this is the only chapter that has no reference to any fundamental article or monograph in its field. Figure 23 does not show well the gross appearance of glioblastoma or figure 24 its microscopic structure. Most neurologic surgeons have tired of futile radical operations on glioblastomas. The author's curt dismissal of roentgen therapy for hypophyseal adenomas will find many dissenters. The statement that "these glandular changes (following operations on a pituitary adenoma) will not interfere with his or her return to an economic and social independence" is unfortunately not always true. Figure 65 looks more like the gliosis surrounding a craniopharyngioma than the tumor itself. The calcification associated with the venous angiomas of epileptic patients having facial nevi has been shown to be in the adjacent gyri and not in the abnormal blood vessels. The treatment of brain abscess is still a subject of much discussion, as the author justly remarks; probably few neurologic surgeons would subscribe to the present method of the author as described on page 171, which must injure seriously the very capsule which the brain has been at so much pains to build up. The discussion of the signs of intracranial extension of an infection might well have been amplified, since this is the important moment for the physician in charge and a valuable guide to the further handling of the case The treatment of osteomyelitis, cysts and tumors of the skull, while not properly neurologic surgery, tends more and more to gravitate into the hands of neurologic surgeons because of the neurologic complications. Trigeminal neuralgia is discussed with the thoroughness it deserves, its treatment being one of the great triumphs of neurologic surgery. Glossopharyngeal neuralgia is for some reason not discussed in the section on lesions of the last four cranial nerves but is briefly mentioned in the differential diagnosis of trigeminal neuralgia. In the treatment of injuries to the spinal cord the author might well have discussed at some length the relatively safe, simple and effective method of treating fracture-dislocation of the cervical vertebrae by means of suspension with tongs. Most neurologists and neurologic surgeons do not share the author's views of the dangers of using iodized oil for the localization of spinal cord tumors whenever it may be necessary. The value of x-ray evidence of the localization of intraspinal tumors is not sufficiently emphasized. The advice given for the handling of injuries of the peripheral nerves is excellent; the author has obviously profited by his long association with Pollock. He has long been interested in the surgical relief of pain; his investigations in this field are well summarized. The discussion of surgery of the autonomic nervous system is very conservative, justly so on the whole, yet the excellent results of autonomic denervation of the lower extremities in Raynaud's disease might have been emphasized as were those obtained in megacolon. The author has a healthy skepticism also for the surgical treatment of epilepsy. The so-called cerebellar fits are not epileptic manifestations. Cervical rib, syringomyelia and aneurysm are briefly discussed. After rather pessimistic accounts of hydrocephalus and spina bifida the book ends with a discussion of the problem of chronic arachnoiditis. It is written in a clear and understandable style. One notes the strange expression "physical therapy treatments," which with "radium therapy treatments" and "x-ray therapy treatments" seems to be establishing itself in the medical vocabulary. The author has been somewhat careless in recognizing the source of illustrations; figure 48 is obviously from Cushing. There are very few typographical errors; the typesetter has had some trouble with the word "chromophile," though why it should trouble him more than "chromophobe" is not evident. On the whole the book is well printed, well arranged and well adapted to its purposes. It contains a sane and conservative discussion of the field of neurologic surgery, and the physician who follows its advice will not go far astray.

**L'impuissance sexuelle chez l'homme: Etiologie, diagnostic, traitement.** Par M. Palazzoli. Préface du Professeur Legueu. Paper. Price, 45 francs. Pp. 284. Paris: Masson & Cie, 1935.

This is a careful and scientific report of a lifetime spent in studying the physiology and pathology of the male sex function from the libido and mechanical points of view. The author discusses thoroughly the innervation of the male sex organs and shows what nerve centers influence the male sexual function. He shows that erection depends on a cerebral or psychogenic stimulus as well as a local or dermovascular stimulus, the correction being made by the pyramidal tracts to a lumbar center, from which a sacral reflex completes the circuit. A nerve lesion involving any of these structures may produce clinical impotence. Excellent diagrams illustrating the nerve pathways are shown. The act of coitus is discussed under the following nine headings: (1) sexual desire; (2) glandular secretions; (3) erection: reflex, psycho, sensory; (4) intromission; (5) erection: local stimulus; (6) pleasurable, voluptuous sensations; (7) orgasm; (8) ejaculation; (9) depletion. These headings should be in mind when taking a patient's history, and the exact point of failure determined; also how and when did his inability appear, and has this inability remained constant or become worse? Answers to these questions will give the physician a lead as to the exact special examinations that should be ordered. Diagnosis is discussed under four heads: general bodily state; organic examination as to nervous endocrine glands: venereal infections general or local; psychic examinations; special examinations: vegetative system and urologic examination. There is an excellent description of the etiologic local lesions, involving the prostate, posterior urethra and verumontanum. Treatment is considered under three titles: (1) general medical; (2) local treatment: testicle grafts, vas ligation and urethral local; (3) psychic treatment. These are all considered in minute detail. This work may be unreservedly recommended as a sane, scientific discussion of the subject.

**Foundations of Biology.** By Lorande Loss Woodruff, Professor of Protozoölogy in Yale University. Fifth edition. Cloth. Price, $3.50. Pp. 583, with 378 illustrations. New York: Macmillan Company, 1936.

This standard textbook has been extensively revised by the author to include significant work of the last five years, especially in the field of genetics. The illustrative subjects, with the exception of such figures as 103, 104 and 120, which are excessively schematic, are artistically and truthfully executed. They are so well chosen that by extensive reference in the text they become the common link between the various sections of the book. This fact, plus the remarkably lucid introductory and concluding paragraphs of each chapter, keeps the enormous number of items considered correlated in an almost perfect unit, and the student is properly oriented at all times. These paragraphs are worthy of the attention of the most seasoned scientists.

The material presented is sufficiently comprehensive to give the general student a background for understanding himself and his place in the great panorama of living organisms. A brief orientation chapter on the scope of biology is followed by the development of the cell concept (plant and animal),

then the multicellular organisms with increasing complex functional systems, considered largely under the headings of plant and animal bodies (structure), nutrition, respiration, circulation, excretion, reproduction and coordination (nervous system). This takes up one third of the text. The topics of origin and continuity of life, embryology, inheritance, adaptation and origin of species occupy almost another third. The chapters dealing with applied and historical biology are nicely tied into the general theme, but it is in the two chapters dealing with a review of the plant and animal kingdoms that the author reaches the climax of his coordinating ability. Here the student seems to be getting a concentrated course in morphology and comparative zoology, but in reality he is presented with additional material and opportunity, coordinated by cross references, for extensive application of the principles previously acquired. The various theories and hypotheses are not presented with a bias but sympathetically and stimulatingly, so that the student should appreciate the fact that the final story has not yet been told. The bibliography given for each chapter is apparently chosen to give the various points of view on the different topics and to stimulate the capable student to go further afield in his special interests. There is a fine glossary and index. The student who masters the material set forth in this textbook should know how to observe, correlate and think, and thus will be well prepared in biology for medical schools.

**Le décollement de la rétine et son traitement.** Par F. Terrien, professeur de clinique ophtalmologique à la Faculté de médecine de Paris, Prosper Veil, ophtalmologiste des hôpitaux de Paris, et M. A. Dollfus. Paper. Price, 40 francs. Pp. 163, with 49 illustrations. Paris: Masson & Cie, 1936.

Based on five years' experience in the eye clinic of the Hotel-Dieu, these authors are publishing their impressions of surgery of retinal detachment with the hopes that the more hesitant of their confrères will see fit to operate on this condition early. They have observed more than 200 cases and have used all types of modern operations. In consequence they are in a position to evaluate the various types of surgical procedures in relation to the various types of retinal detachment, taking into consideration the multiple factors of time of duration, etiology, refraction and presence of holes. Their end results agree in the main with those of other large clinics; namely, a reattachment can be secured in from 55 to 70 per cent of the cases, depending on the care in selection of cases for operation. The book is divided into ten chapters, the first five of which deal with the clinical study, etiology and anatomy of detachment. Then comes a long chapter devoted to the various types of modern surgical procedures, written in sufficient detail and well illustrated in black and white. The historical aspect of this is particularly well done. Four chapters are devoted to after-care, pathology and medical treatment. The book has four good colored plates, illustrating various types of holes in the retina. There is no bibliography or index and the literary references are few and far between. The work of the American investigators is absolutely ignored; Clifford Walker is not even mentioned. The book making is the typical French paper-covered affair that falls to pieces during the first reading. The volume is of interest but does not mark any milestone in the rapidly advancing road that will lead to the solution of the problem of retinal detachment.

**A Study of Mortality in Cincinnati for the Period 1929-1931.** Paper. Price, $1. Pp. 187, plus charts. Cincinnati: Public Health Federation, 1935.

This volume, reproduced in mimeograph and planograph, is a comprehensive study of mortality in Cincinnati, typifying the way in which mortality ought to be studied everywhere. It is only by delving into the details of a death rate that an intelligent conception can be had of what its most important components consist. In Cincinnati, a city which has always been notable in public health circles for the relatively small part played by the city health department, and therefore the correspondingly great importance of voluntary agencies, the principal causes of high mortality are found to be appendicitis, enteritis, whooping cough, scarlet fever, automobile accidents and tuberculosis, while favorable conditions are manifest in death rates due to diphtheria, influenza, cancer, heart disease, pneumonias, nephritis, suicide and diabetes. The report brings out the close relationship between low income, poor housing and consequent underprivileged status. With respect to recommendations, the most significant are those calling for reorganization and expansion of public health facilities on a county-wide basis "in order that all forces may be most effectively joined." Especial attention is recommended to families of low income and to the Negro population. Of practically equal significance is the recommendation that preventive and curative health work of tax supported agencies "should be under central direction and should function in close cooperation with the academy of medicine, the college of medicine and other health and social agencies." The report is significant for two reasons: first, it is a dispassionate, thorough and scholarly evaluation of the situation as it exists; second, it is symptomatic of the trend toward cooperation between medical and public health agencies. In this trend many observers see the only logical direction in which preventive and curative medicine can march side by side.

**Survey and Appraisal of the Health Activities and Needs of Louisville, Kentucky, November, 1935.** By Carl E. Buck, Dr.P.H., Field Director, American Public Health Association. Awarded to the City of Louisville in Connection with the 1935 City Health Conservation Contest. Paper. Pp. 47. Louisville: Health Council, 1935.

This report is another community appraisal, of which there have been many in the last ten years. This particular survey was an award incident to the Interchamber Health Conservation Contest sponsored by the American Public Health Association and the United States Chamber of Commerce. It sets forth the status of public health work in the city of Louisville and makes certain recommendations, of which the most significant is "The Louisville City Health Department must be taken out of politics and kept out of politics." An analysis of the points in the scoring schedule show that Louisville's health program is rated at 737 out of a possible 1,000. This is purely a quantitative measurement and must be accepted with all the reservations which that statement implies. Of particular interest to the medical profession in this connection is that of these points only seven, or 0.9 per cent, were credited to the activities of practicing physicians in Louisville. This would indicate an opportunity for the medical profession to become far more active in preventive medicine. Such an opportunity for greater participation in public health work on the part of the medical profession exists not only in Louisville but everywhere. Community surveys of this character, if they lead to better community cooperation, reflect a significant trend.

**The Natural History of Disease.** By John A. Ryle, M.A., M.D., F.R.C.P., Regius Professor of Physic in the University of Cambridge. Cloth. Price, $5.25. Pp. 438. New York & London: Oxford University Press, 1936.

This volume is made up of a collection of thirty-four papers, the majority of which, as the author tells us, have appeared previously in medical journals of the past ten years and are based on addresses to medical societies or clinical lectures given at Guy's Hospital. They are concerned more particularly with symptomatology and the portraiture of disease than with pathologic changes or diagnosis by means of laboratory or instrumental aids. The theme of the book is stated on page 22. "There is no disease of which a fuller or additional description does not remain to be written; there is no symptom as yet adequately explored." It will be noted that this is much the same idea that was so strenuously set forth by Mackenzie, that research ought not to be entrusted entirely to the laboratory worker or the full time hospital man; that the active practitioner has a rich field for investigation in the home and in the ward. In fact, this is the text of one of Ryle's best papers, in which he discusses research in clinical medicine, taking issue with some of the views that were so forcibly advocated by Sir Thomas Lewis in 1930. The author is somewhat given to philosophizing. At the end of a paper on the natural history of duodenal ulcer he says: "It is, I believe, a just criticism of Surgery and Medicine in the present era that they have concentrated on parts to the exclusion of the whole and on technique to the exclusion of philosophy. In duodenal ulcer no less than in many other maladies, we have come to rely upon too narrow a pathology. In our therapeutic quests we have been too little observant of physiological principle. We are

all compelled by the magnitude of our subject to be something of specialists, but this should not necessitate an abandonment of that naturalistic outlook which marked the achievement of our old preceptors from Hippocrates to Hunter." A few subjects selected at random may show the scope of the book: the study of symptoms; anorexia; on examining the rectum; the natural history, prognosis and treatment of staphylococcic fever; of streptococcic fever; of infections with Bacillus coli-communis; angina pectoris and allied seizures; thrombophlebitis migrans. While the author does not write in the attractive style of some other occupants of the royal chairs of medicine in Cambridge and Oxford—the memory of Allbutt and Osler is yet green—the essays based on ample experience, careful observation and, in general, sound reasoning are presented in such a form as to make them pleasant and profitable reading for the occasional hour.

**L'artériographie des membres et de l'aorte abdominale: Etude critique.** Par Henri Reboul. Préface de Ch. Laubry. Paper. Price, 40 francs. Pp. 137, with 82 illustrations. Paris: Masson & Cie, 1935.

This is a concise but critical review of the development and status of arteriography. After a historical relation of the development of the method in the first chapter, the author considers in successive chapters the contrast substances, the mechanical factors involved in intra-arterial injection of the contrast medium, the vasomotor reactions, the incidents and accidents occurring in his own work, the results and the author's therapeutic deductions. The rest of the book is made up of case histories and arterioroentgenograms to illustrate various phases of arteriography and its clinical value. An essentially complete bibliography is included. The book is well printed and the illustrations are excellent, but most to be admired are the lucidity of presentation and the sanity with which the subject is discussed. For the first time the dangers of injecting preparations of thorium as a contrast medium has been accurately presented. This book should interest all those who are interested in arteriography and in vascular pathology.

**Post-Graduate Surgery.** Edited by Rodney Maingot, F.R.C.S., Senior Surgeon to the Royal Waterloo Hospital. With an introduction by The Right Hon. Lord Moynihan of Leeds, K.C.M.G., C.B., M.S. Volume I. Leather. Price, $45, per set of 3 volumes. Pp. 1742, with 846 illustrations. New York: D. Appleton-Century Company, Inc., 1936.

This is the first volume of a system which promises to be a valuable contribution to surgery. Anesthesia is concisely discussed and the importance of some of the newer anesthetic agents emphasized. In the chapter on the treatment of shock, one gets the impression that blood transfusion is not given the emphasis which it receives in this country. Most of the volume deals with the surgery of the abdomen. Diagnostic measures and medical management are well dealt with in special chapters. The operative technic of the various authors is well presented. A criticism might be that too many obsolete operations are reviewed. The chapter on the colon and rectum are particularly to be commended, especially that dealing with carcinoma of the rectum. The book is extensively illustrated and there is an extensive chapter dealing with the technic of radium treatment.

**25 Jahre Kaiser Wilhelm-Gesellschaft zur Förderung der Wissenschaften. Band II: Die Naturwissenschaften.** Redigiert von Max Hartmann. Cloth. Price, 28.50 marks. Pp. 433. Berlin: Julius Springer, 1936.

This is the second of a series of three volumes published by Max Planck, president of the Kaiser Wilhelm Society for the Advancement of Science, on the occasion of its twenty-fifth anniversary. The volume is devoted to the natural sciences. It gives a survey of the progress in scientific research as far as the contributions of the various branches of the Kaiser Wilhelm society are concerned. Only the second part of the volume is of a strictly medical interest, for it surveys the contributions of the institutes for biology and cellular physiology, for experimental therapy, for biochemistry, for microbiology, for medical research, for the physiology of work, for research on the brain, for psychiatry and for physiologic research. The introductory paper on the philosophy of the natural sciences, by Dr. Max Hartmann, is likewise of considerable interest. Under the heading "philosophy of physics" he discusses such problems as space and time (the theory of relativity), causality, particularly in its relation to the quantum theory of Planck, and the nature of matter. Under the title "philosophy of biology" he discusses first causality and teleology and then vitalism, particularly the neovitalism of Hans Driesch, which emphasizes the autonomism of living organisms in contradistinction to the mechanistic interpretation of organic life which prevailed in the second half of last century.

**Infant Nutrition: A Textbook of Infant Feeding for Students and Practitioners of Medicine.** By Williams McKim Marriott, B.S., M.D., Professor of Pediatrics, Washington University School of Medicine, St. Louis. Second edition. Cloth. Price, $4.50. Pp. 431, with 27 illustrations. St. Louis: C. V. Mosby Company, 1935.

The first edition of this book appeared about five years ago and was favorably received by both students and practitioners of medicine. The material presented was of special interest because of the author's reputation as a pediatrician and to a greater extent because of his contributions to this particular branch of pediatrics. This new edition should prove equally satisfactory to those interested in the latest concepts of the much discussed subject of infant nutrition. The chapter on vitamins, which was entirely adequate five years ago, has required extensive revision. The new chapter on allergy is not as well developed as most of the other chapters, but there is careful discussion of the various preparations and procedures for feeding the allergic infant. The author writes tersely without affecting the continuity, and the subject matter is well grouped and meticulously indexed. This edition has been made briefer than the preceding one by avoiding repetition and omitting some of the extraneous material. It should prove useful to the physician confronted with the everyday problems of infant nutrition and serve as a standard for the evaluation of the various newer methods of feeding infants.

**La radiographie en ophthalmologie: Atlas clinique.** Par Edward Hartmann, ophtalmologiste des hôpitaux de Paris. Rapport présenté à la Société française d'ophtalmologie (le 12 Mai 1936). Cloth. Pp. 272, with 391 illustrations. Paris: Masson & Cie, 1936.

This is one of the publications sponsored by the French Society of Ophthalmology, of which, so far, eight have appeared. It is a fine piece of work, dedicated to the memory of Victor Morax. The book deals with the application of radiography in ophthalmology and really belongs more in the library of the radiographer than in the library of the ophthalmologist. The various chapters take up in order (1) positions for photography; (2) radiography in disorders of the eyeball, with particular emphasis on localization of intra-ocular foreign bodies; (3) radiography in disorders of the orbit; (4) radiography of the optic canal; (5) radiography of the lacrimal passages; (6) radiography of the nasal accessory sinuses; (7) dental radiography (very skimpy); (8) radiography in disorders of the petrous apex; (9) radiography of intracranial tumors; (10) radiography in different diseases of the bones of the cranium and face; (11) radiography in anatomic and physiologic research; 12 and 13 are two short purely technical chapters. A complete bibliography precedes the final table of contents. Naturally, such a book must be illustrated extensively, particularly with reproductions of roentgenograms, the majority of which are well done. Undoubtedly many have been retouched for the sake of clearness, which is perfectly justifiable in an atlas. Photographs illustrating the various positions for radiography are numerous and well taken, as are the illustrations of the different types of apparatus. The book making is good and the whole project is creditable.

**Clínica quirúrgica.** Por Pablo L. Mirizzi, profesor titular de clínica quirúrgica de la Facultad de medicina de Córdoba. Tomo IV. Paper. Pp. 425, with illustrations. Cordoba: Libreria "El Ateneo," 1934.

With the publication of the fourth volume of "Clinical Surgery," Mirizzi completes the work which he has dedicated to Prof. Pedro Vella, his teacher. The first chapter is devoted to the discussion of shock. In the treatment of traumatic shock, Mirizzi recommends that hemorrhages be stopped and that the patient be kept warm and given repeated small doses of morphine. Adequate preoperative management is helpful in the prevention of surgical shock. The selection of an anesthetic is important. Mirizzi states that the administration of epinephrine and blood transfusion is the preferred treatment for surgical shock. Many pathologic processes of organs in

the peritoneal cavity which require surgical intervention are considered. The ordinary surgical conditions are presented as separate chapters, and each chapter has an appended bibliography. This book, together with the first three volumes, may be used profitably by the surgeon as well as the general practioner. The paper is of good quality and the illustrations are commendable.

## Bureau of Legal Medicine and Legislation

### MEDICOLEGAL ABSTRACTS

**Malpractice: Change in Statute of Limitations Not Retroactive.**—This case came before the Supreme Judicial Court of Maine on an agreed statement of facts. The defendant, a physician, performed a hemorrhoidectomy on the plaintiff, Nov. 18, 1929, and rendered the necessary postoperative care until the following January. It was agreed that the acts and omissions of alleged malpractice occurred between the dates named. Approximately five and one-half years thereafter the plaintiff sued the defendant for malpractice. The statute of limitations in force when the malpractice was alleged to have occurred barred the maintenance of actions for malpractice if not commenced within six years after the cause of action accrued. On March 20, 1931, however, by amendment to the existing law, the time allowed for the commencement of actions for malpractice was reduced from six to two years. The defendant contended that the two year limitation should apply to the present case.

The legislature has full power and authority, said the Supreme Judicial Court, to regulate and change the form of remedies in actions if no vested rights are impaired or personal liabilities created. There is no constitutional inhibition against the enactment of retroactive legislation which affects remedies only. Statutes of limitation fall within this rule. They are laws of process, and, where they do not extinguish the right itself, are deemed to operate only on the remedy. It does not follow, however, that, because the legislature possessed the power to enact a retroactive statute of limitations, it did so in the passage of the amendment under consideration. The language of that amendment makes no reference to causes of action which had already accrued. Barren of such reference the limitation cannot be deemed to have been intended to be retroactive, under the rule of statutory construction that all statutes will be considered to have a prospective operation only unless the legislative intent to the contrary is clearly expressed or necessarily implied from the language used. The court therefore held that the six year statute of limitations was applicable and remanded the case to the superior court for trial.—*Miller v. Fallon (Maine), 183 A. 416.*

**Malpractice: Action Based on Tort, Not Contract.**—The plaintiff was an employee of the Atchison, Topeka & Santa Fe Railroad Company and for a number of years had been a member of the hospital association operated by the railroad company. By virtue of this membership, he was entitled to surgical treatment at the association hospital. The defendant, a physician, was a member of the hospital association's staff. The plaintiff, suffering from a hernia, was operated on by the defendant at the association hospital Oct. 23, 1930. Alleging that, by reason of the defendant's failure to perform the operation in a manner in accordance with the custom and practice of good and prudent surgery, his health was permanently injured, the plaintiff sued the defendant April 28, 1933. The defendant demurred to the petition on the ground that the cause of action was barred by the two year statute of limitations. The trial court sustained the demurrer and the plaintiff appealed to the Supreme Court of Kansas, contending, apparently, that the statute of limitations applicable to actions based on contracts should control in the present case.

The petition alleged that the defendant orally agreed to perform the operation in accordance with the practice of good and prudent surgery. It will be observed, said the Supreme Court, that the plaintiff as a member of the railroad company hospital association was entitled to treatment at the hospital without any new, express or independent contract with anybody. He was invalided to the hospital and there consulted the defendant, a member of the hospital staff. The petition, observed the court, does not allege that the plaintiff paid or agreed to pay the defendant anything for his services. The dues which he had already paid to the hospital association secured to him the defendant's services as a member of the hospital staff. The contract which the plaintiff says he made with the defendant was a contract to perform an operation according to good surgical practice, a method which the defendant, as a surgeon, was obliged to follow in any event, without any contract. The damages which the plaintiff suffered by reason of the operation, the court said, were characteristically such as flow from malpractice, and notwithstanding the form given to the petition, the gravamen of the action was malpractice, which is a tort. The action was therefore barred by the two year statute of limitations. The judgment of the district court, sustaining the demurrer to the petition, was affirmed.—*Travis v. Bishoff (Kan.), 54 P. (2d) 955.*

## Society Proceedings

### COMING MEETINGS

Academy of Physical Medicine, Boston, Oct. 20-22. Dr. Franklin P. Lowry, 313 Washington St., Newton, Mass., Secretary.

American Academy of Ophthalmology and Otolaryngology, New York, Sept. 26-Oct. 3. Dr. William P. Wherry, 107 South 17th St., Omaha, Executive Secretary.

American Association for the Study of Neoplastic Diseases, Washington, D. C., Sept. 17-18. Dr. Eugene R. Whitmore, 2139 Wyoming Ave. N.W., Washington, D. C., Secretary.

American Association of Industrial Physicians and Surgeons, Atlantic City, N. J., Oct. 5-6. Dr. Volney S. Cheney, Armour and Co., Union Stock Yards, Chicago, Secretary.

American Association of Obstetricians, Gynecologists and Abdominal Surgeons, Bretton Woods, N. H., Sept. 14-16. Dr. James R. Bloss, 418 Eleventh St., Huntington, W. Va., Secretary.

American Clinical and Climatological Association, Richmond, Va., Oct. 19-21. Dr. Francis M. Rackemann, 263 Beacon St., Boston, Secretary.

American College of Surgeons, Philadelphia, Oct. 19-23. Dr. George W. Crile, 40 East Erie St., Chicago, Chairman, Board of Regents.

American Congress of Physical Therapy, New York, Sept. 7-11. Dr. Nathan H. Polmer, 921 Canal Street, New Orleans, Secretary.

American Hospital Association, Cleveland, Sept. 28-Oct. 2. Dr. Bert W. Caldwell, 18 East Division St., Chicago, Executive Secretary.

American Public Health Association, New Orleans, Oct. 20-23. Dr. Reginald M. Atwater, 50 West 50th St., New York, Executive Secretary.

American Roentgen Ray Society, Cleveland, Sept. 29-Oct. 2. Dr. Eugene P. Pendergrass, 3400 Spruce St., Philadelphia, Secretary.

Associated Anesthetists of the United States and Canada, Philadelphia, Oct. 19-23. Dr. F. H. McMechan, 318 Hotel Westlake, Rocky River, Ohio, Secretary.

Association of American Medical Colleges, Atlanta, Ga., Oct. 26-28. Dr. Fred C. Zapffe, 5 South Wabash Ave., Chicago, Secretary.

Association of Military Surgeons of the United States, Detroit, Oct. 29-31. Dr. H. L. Gilchrist, Army Medical Museum, Washington, D. C., Secretary.

Central Association of Obstetricians and Gynecologists, Detroit, Oct. 15-17. Dr. Ralph A. Reis, 104 South Michigan Blvd., Chicago, Secretary.

Colorado State Medical Society, Glenwood Springs, Sept. 9-12. Mr. Harvey T. Sethman, 1612 Tremont Place, Denver, Executive Secretary.

Delaware, Medical Society of, Rehoboth, Oct. 12-14. Dr. William H. Speer, 917 Washington St., Wilmington, Secretary.

Indiana State Medical Association, South Bend, Oct. 6-8. Mr. Thomas A. Hendricks, 23 East Ohio St., Indianapolis, Executive Secretary.

Inter-State Postgraduate Medical Association of North America, St. Paul, Oct. 12-16. Dr. W. B. Peck, 27 East Stephenson St., Freeport, Ill., Managing Director.

Kansas City Southwest Clinical Society, Kansas City, Mo., Oct. 5-8. Dr. J. V. Bell, 1103 Grand Ave., Kansas City, Mo., Secretary.

Kentucky State Medical Association, Paducah, Oct. 5-8. Dr. Arthur T. McCormack, 532 W. Main St., Louisville, Secretary.

Michigan State Medical Society, Detroit, Sept. 21-24. Dr. C. T. Ekelund, 35 West Huron St., Pontiac, Secretary.

Mississippi Valley Medical Society, Burlington, Iowa, Sept. 30-Oct. 2. Dr. Harold Swanberg, 510 Maine St., Quincy, Ill., Secretary.

Nevada State Medical Association, Reno, Sept. 25-26. Dr. Horace J. Brown, 20 North Virginia St., Reno, Secretary.

Ohio State Medical Association, Cleveland, Oct. 7-9. Mr. C. S. Nelson, 79 East State St., Columbus, Executive Secretary.

Omaha Mid-West Clinical Society, Omaha, Oct. 26-30. Dr. J. D. McCarthy, 107 South 17th St., Omaha, Secretary.

Oregon State Medical Society, The Dalles, Oct. 8-10. Dr. Morris L. Bridgeman, 1020 S.W. Taylor St., Portland, Secretary.

Pennsylvania, Medical Society of the State of, Pittsburgh, Oct. 5-8. Dr. Walter F. Donaldson, 500 Penn Ave., Pittsburgh, Secretary.

Tri-States Medical Society of Texas, Louisiana and Arkansas, Longview, Texas, Oct. 26-27. Dr. John M. Ellis, Mt. Pleasant, Texas, Secretary.

Virginia, Medical Society of, Staunton, Oct. 13-15. Miss Agnes V. Edwards, 1200 East Clay St., Richmond, Secretary.

Wisconsin, State Medical Society of, Madison, Sept. 8-11. Mr. J. G. Crownhart, 119 East Washington Avenue, Madison, Secretary.

# Current Medical Literature

## AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers in continental United States and Canada for a period of three days. Periodicals are available from 1926 to date. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested). Periodicals published by the American Medical Association are not available for lending but may be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

### Alabama Medical Association Journal, Montgomery

5: 405-440 (June) 1936

Appendicitis in Infancy and the Younger Group of Children. E. W. Peterson, New York.—p. 405.

Ocular Tuberculosis. E. C. Ellett, Memphis, Tenn.—p. 410.

*Use of Cardiac Stimulants in Acute Infectious Diseases. G. R. Smith, Ozark.—p. 415.

Enuresis in Children: Its Cause and Treatment. J. W. Boggess Jr., Guntersville.—p. 417.

**Cardiac Stimulants in Infectious Diseases.**—Smith points out that physiologists claim that the cause of death in infectious processes is a condition, akin to shock, in which there is great capillary dilatation with stagnation of the blood in the dilated vessels. This dilatation is produced by the liberation of certain histamine-like substances in the blood stream by the bacteria themselves. If the pathologic changes found in the majority of these cases do not warrant the assumption of an antemortem diagnosis of myocardial degeneration, cardiac stimulants must have been misused in trying to stimulate a heart that did not require stimulating. Recently the pendulum has been swinging toward smaller doses in acute infectious diseases rather than the rapid digitalization method. Whether this is more beneficial or merely less harmful than the larger doses is an interesting question. If there is no evidence of actual myocardial damage and no preexisting heart disease, digitalis is certainly not indicated and may be decidedly harmful if given. The use of cardiac stimulants, then, should be supplanted by the more logical procedure of how best to restore the venous return to the heart or what measures to adopt to increase the blood volume. It would seem that the intravenous administration of isotonic fluids or of dextrose would be a simple and ideal procedure. But, owing to the increased capillary permeability present in these cases, the fluid is soon lost in the tissues. Not quite so simple but far more efficacious to increase the blood volume and prevent transudation of fluid into the tissues is blood transfusion. Epinephrine is very useful in some cases of sudden collapse. It is a powerful capillary constrictor, but the effect is too transient to make it dependable. Pitressin has the same effect, although it acts directly on the heart muscle and has a more prolonged action than epinephrine. Strychnine has the effect of lessening capillary permeability and increasing the blood volume. It should be given in larger doses than generally recommended and is much safer than digitalis in general use. Oxygen is useful to relieve cyanosis and lowers temperature but is of doubtful value otherwise.

### American Journal of Ophthalmology, St. Louis

19: 457-548 (June) 1936

The Formation of a Hole in the Macula: Light Burn from Exposure to Electric Welding. H. V. Würdemann, Seattle.—p. 457.

Tolerance of Light in Exophthalmic Goiter. E. C. Albers and C. Sheard, Rochester, Minn.—p. 460.

Circinate Retinitis: Report of Case and Review of Literature. A. E. Edgerton, San Francisco.—p. 463.

Iridocorneosclerectomy for Glaucoma. C. Berens, New York.—p. 470.

Micro-Anatomy of the Eye with the Slit Lamp Microscope: I. Comparative Anatomy of Angle of Anterior Chamber in Living and Sectioned Eyes of Mammalia: Part II. M. U. Troncoso and R. Castroviejo, New York.—p. 481.

Chronic Postoperative or Posttraumatic Retinitis (Retinitis Serosa). B. Samuels, New York.—p. 493.

High Esophoria Studied by Eye Movement Photography: Case. B. Clark, Los Angeles.—p. 503.

### Am. J. Roentgenol. & Rad. Therapy, Springfield, Ill.

35: 721-866 (June) 1936

*The Middle Lobe of the Right Lung: Its Roentgen Appearance in Health and Disease. A. O. Hampton and D. S. King, Boston.—p. 721.

Synovial Membranes in Various Types of Arthritis: Study by Differential Stains. R. K. Ghormley and A. E. Deacon, Rochester, Minn.—p. 740.

*Fasciagraphy: Preliminary Report. J. R. Carty, New York.—p. 747.

Air Injection of Fascial Spaces: New Method of Soft Tissue Roentgenography: Preliminary Report. C. M. Gratz, New York.—p. 750.

Practical Value of Roentgenography of Epiphyses in Diagnosis of Preadult Endocrine Disorders. D. M. Clark, Santa Barbara, Calif.—p. 752.

Phenomena of Shadow Attenuation and Summation in Roentgenography of Lungs. I. Rappaport, New York.—p. 772.

Roentgenography in Obstetric Diagnosis. J. R. Eisaman, Pittsburgh.—p. 777.

Research on Pneumatization of Nasal Accessory Sinuses and of Mastoid Processes and on Shape and Dimensions of Sella Turcica in Twins. I. G. Dillon and I. B. Gourevitch, Moscow, U. S. S. R.—p. 782.

Effect of Roentgen Irradiation on Experimentally Produced Polycythemia in Rats, with Especial Reference to Blood and Bone Marrow. E. de Savitsch, Molly Radford, B. H. Blocksom, S. P. Perry and Nathalie Tupikova, Chicago.—p. 786.

Cerebral Roentgenoscopy as an Aid in Pneumoventriculography and Encephalography. A. J. Bendick and B. H. Balser, New York.—p. 790.

Some Discrepancies and Pitfalls That Occur in Clinical Work as Result of Grading of Tumors. F. W. Konzelmann, Philadelphia.—p. 795.

Erysipelas Carcinomatosum Resembling Radiodermatitis. G. E. Pfahler, with notes on histopathology by E. A. Case, Philadelphia.—p. 804.

Hypertension and Diabetes: Their Treatment by Radiotherapy. J. H. Hutton, Chicago.—p. 813.

Improved High Voltage Roentgen-Ray Tube. B. Cassen and K. E. Corrigan, Detroit.—p 818

**The Middle Lobe of the Right Lung.**—Hampton and King pay particular attention to the right lateral view of the chest. They hope that their work may aid in the interpretation of certain shadows seen in the lower portion of the right side of the chest which are now commonly and vaguely termed right perihilar thickening, peribronchial fibrosis, right hilar tuberculosis, pleuropericardial disease, thickened interlobar pleura, pleurisy at the anterior costophrenic angle with interlobar extension, increase in lung markings, diminished radiance, mottled dulness, and, most commonly, interlobar effusion. They give a brief anatomic description of the normal lung and of some of the more common shadows cast by disease in the middle lobe, with shadows simulating encapsulated interlobar empyema, emphasize some points in differential diagnosis and discuss some of the more unusual shadows cast by a fibrosed or collapsed middle lobe and the effect of pleural adhesions on the shape of these shadows. In the lateral projections of the chest, consolidation of the lateral aspect of the middle lobe casts a triangular shadow, whereas consolidation of the medial portion may cast a rectangular shadow. Consolidation may also produce convexities of the septums of the middle lobe simulating encapsulated fluid under pressure. The fusiform and "overlapping" shadows commonly attributed to interlobar effusion and shadows heretofore interpreted as interlobar effusion are more commonly due to disease within the middle lobe. Interlobar extensions of pleural fluid and thickening of the interlobar septums are not uncommon, but primary encapsulated interlobar empyema in the region of the middle lobe is thought to be rare. Visualization of normal pulmonary septums is common and thickening of the septums is thought to be due to pleural disease. Shadows simulating thickened interlobar pleura are often cast by disease in the middle lobe. That shadows simulating interlobar disease must occupy the normal position of the septums has been observed. The size, shape and position of a contracted middle lobe is markedly influenced not only by surrounding disease but by pleural adhesions. Although certain suppurative diseases of the middle lobe can be diagnosed accurately by roentgen examination alone, the importance of bronchoscopic and iodized oil examinations before surgical procedures is obvious. The secondary and compensatory changes in the thorax resulting from lobar collapse are of extreme importance in roentgen diagnosis.

**Fasciagraphy.**—Carty's preliminary experience indicates that air injections with resulting fasciagrams have interesting possibilities in the diagnosis of soft tissue tumors and certain types of inflammation of the muscles. They may have a valuable

application in the diagnosis of nerve pain, particularly when there is a question of involvement of the larger nerves. It is an unequaled method for studying soft tissue anatomy, with particular reference to the living anatomy and the study of the intercommunication of fascial planes. There are two dangers that must be studiously avoided: infection and air embolus. Before starting an injection one should exclude diabetes and not attempt the procedure on asthenic individuals. A differential white blood count is made and a relative or absolute polymorphonucleosis is a contraindication. Any suspicion of a pyogenic infection, local or general, is an absolute contraindication. The patient should be specifically told what has been done. Otherwise a false diagnosis of gas gangrene may be made by others. A 50 cc. Luer syringe with a three way stopcock is used. A 3-inch 19 gage needle is attached to the opposite side of the stopcock, leaving the third way free and at right angles. The needle is introduced parallel with the long axis of the part under investigation at a slight angle with the skin. When introducing the needle, firm pressure is used until the superficial fascia is penetrated. This is indicated by a slight "give." While it is possible to do a fasciagram by injecting the air into the subcutaneous space, the procedure is apt to be quite painful and the diffusion of the air is not so complete. When the superficial fascia has been penetrated, the valve is turned so that there is a connection between the needle and the syringe. The plunger is slowly withdrawn until 50 cc. of air is in the syringe; then the valve is turned to connect with the needle and the injection done slowly. The amount of air that can be injected varies according to the part involved. A roentgenogram is made immediately and the position of the air noted. If it is not uniformly diffused or if it is in the wrong locality, there may be a general distribution by massage and further roentgenograms. It is imperative that a soft tissue technic be used, as the average bone technic may obliterate the finer collection of air. The essential principle of such a technic is a high milliampere second and a low kilovolt (peak) ratio. One usually sees immediately after injection in the normal individual a linear collection of air under the superficial fascia in the general neighborhood of the injection. Following massage and manipulation of the part, this localized collection is dissipated and there is a more general distribution. The whole tendency is for the air to assume a linear form without the formation of pockets. In some cases of myositis it has been noted that this linear distribution has been lost, and the air apparently tends to form localized pockets.

## Archives of Dermatology and Syphilology, Chicago

**34:** 1-194 (July) 1936


*Dermatophytosis and Dermatophytids, with Particular Reference to Differential Diagnosis of Dyshidrosiform Eruptions of Hands and Feet. F. Wise and J. Wolf, New York.—p. 1.

II. Effect of Variation of Ratios of Dextrose to Peptone on Colonies of Certain Pathogenic Fungi. J. W. Williams, Cambridge, Mass. —p. 15.

Histopathogenesis of Psoriasis and Its Aberrant Lesions. G. M. MacKee, New York, and P. D. Foster, Los Angeles.—p. 35.

*Antisyphilitic Treatment: Effect of Rest on Results of Treatment and General Benefit Derived from Therapy. M. E. Obermayer and S. W. Becker, Chicago.—p. 57.

Lymphogranuloma Inguinale: III. Use of Lymphogranulomatous Mouse Brains for Diagnosis. A. W. Grace and Florence H. Suskind, New York.—p. 65.

Studies in the Genus Microsporum: II. Biometric Studies. N. F. Conant, Durham, N. C.—p. 79.

LXXIV. Sensitization of Animals to Plant Oils. R. L. Kile, St. Louis. —p. 90.

Arterial Embolism Following Intramuscular Injection of Bismuth Preparation. A. Grossman, New York.—p. 93.

Pathogenesis of Cutaneous Complications of Varicose Veins. L. M. Zimmerman, Chicago.—p. 97.

*Fixed Arsenical Eruption: Sensitivity to Tryparsamide at Sites of Pigmentation Following Dermatitis Due to Silver Arsphenamine. D. M. Pillsbury, Philadelphia.—p. 103.

Experimental Arsphenamine Dermatitis: Reaction to Arsphemanine in Normal Guinea-Pigs and in Guinea-Pigs Given Staphylococcus Toxin. F. E. Cormia, Montreal.—p. 107.


**Dermatophytosis and Dermatophytids.**—Wise and Wolf declare that in the United States the majority of vesicular eruptions of the hands in adults, exclusive of occupational eczema, dermatitis venenata and eczema of unknown cause, are accompanied by fungous infections of the feet. Such eruptions on the hands are usually epidermophytids, moniliids or trichophytids. Owing to the fact that a large proportion of the adult population in this country has or has had fungous infection of the feet, positive reactions to the intradermal and patch tests with trichophytin and oidiomycin are of little significance in their direct bearing on the differential diagnosis of a coincident vesicular eruption on the hands. The significance of focal, local and general reactions following the intradermal injection of extracts of fungi cannot at present be properly appraised with respect to vesicular dermatoses of the hands and feet. The mere fact that a patient has a vesicular eruption on the hands and a coincident eruption on the feet does not indicate that the eruption on the hands is necessarily or presumably an "id" due to dissemination of fungi or their products (or possibly both) from the original focus on the feet. The eruption on the hands may be caused by a number of demonstrable agents other than fungi or it may be evoked by a wholly unknown agent. To differentiate these eruptions, a careful history must be obtained from the patient. The diagnosis of "ids" should not be entertained without strongly corroborative evidence, the most important of which is the demonstration of the causative organism, either microscopically or by culture, from the focus of primary infection of the skin or nails.

**Antisyphilitic Treatment.**—Obermayer and Becker try to evaluate the various factors that might be responsible for improvement in the majority of their patients and for lack of improvement in the minority. The general beneficial effect of antisyphilitic treatment is caused by the specific effect of antisyphilitic drugs, the nonspecific effect of antisyphilitic drugs, the effect of nonspecific treatment and the patient's habits and ways of living. The authors' study was carried out by sending questionnaires to 500 patients chosen at random, who were of all ages and in all stages of syphilis and who had been treated for at least one year. Answers were received from about half of this number. It was found that the patient who has had a better regulated life has obtained the best symptomatic improvement. The experiences are in line with the observations of Becker that the results of treatment at the Mayo Clinic, where the patients are hospitalized for one day after the administration of arsphenamine and rest during the remainder of the week, are better than the results obtained in urban practice in which the patients are working and cannot be hospitalized. A physician working in a marine hospital stated that the best therapeutic results he had ever seen were in hospitalized syphilitic patients. The ratio between the percentage of patients who gained and the percentage who lost weight is favorable in the patients whose rest was increased during treatment and the normally resting patients, while it reverses sharply in the patients who took no rest. Only 38 per cent of the patients took vacations, but the vacation of the majority of the patients was not spent in relaxation. The data show sufficient beneficial effect of regular and restful living to warrant the statement that the physician who treats syphilis should emphasize to every patient under his care the paramount necessity of rest and relaxation for obtaining the most satisfactory results from antisyphilitic treatment. Failure to observe regular hours of rest and to take vacations leads to poorer results from therapy. Life in the large cities has led to overactivity and frustration of the human need for emotional and physical relaxation. Reeducation to a more restful way of living should be part of the task of physicians.

**Fixed Arsenical Eruption.**—Pillsbury gives the following significant observations in his case of fixed arsenical eruption: (1) A fixed macular pigmentation persisted after an exfoliative dermatitis due to silver arsphenamine; (2) a livid, erythematous urticarial reaction developed gradually and became increasingly severe after successive injections of tryparsamide; (3) eventually the patient complained of general malaise and drowsiness; (4) universal sensitivity of the entire skin to arsphenamines was evidenced by positive reactions to patch and intradermal tests, and (5) there was sensitivity to tryparsamide localized at the sites of the fixed eruption. The reaction to arsphenamine was of the eczematous type, superficial and sharply limited to the portion of the skin in direct contact with the allergen. It developed rapidly and started to subside as soon as the patch was removed. The reaction to tryparsamide developed more slowly (in forty-eight hours) and persisted unabated for two days after removal of the patch. It was not superficial and

was distinctly not limited to the site of the contact with tryparsamide, and there was no vesicle formation. It seems entirely possible that the reaction developed as a consequence of absorption of the tryparsamide, since the site of shock tissue was principally in the upper portion of the cutis, the superficial portion of the epiderm remaining unaffected by the passage of the drug through it. The reaction of the patient to arsphenamine no doubt belongs to the type of eczematous reactions in which the site of the shock tissue is the epiderm. It seems not improbable that in the original sensitivity to arsphenamine both the epiderm, with its exfoliative dermatitis, and portions of the cutis, with their fixed eruption and pigmentation, were the sites of shock tissue and that the gradually developing sensitivity to tryparsamide manifested itself in the portions of the cutis that were previously the shock sites for arsphenamine. The fact that no previously unaffected sites became the seat of the tryparsamide eruption may be another example of the Sanarelli phenomenon as applied to the skin, in which previous sensitization to a heterophile substance leads to reaction at the affected site to a large variety of normally nontoxic substances.

## California and Western Medicine, San Francisco

**44:** 457-544 (June) 1936

Address of the President (Sixty-Fifth Annual Session of the California Medical Association). R. A. Peers, Colfax.—p. 464.
A Rural Cancer Clinic. W. R. Dorr, Arlington.—p. 466.
Acute Perforation of Peptic Ulcer: Evaluation of Diagnostic Symptoms and Signs. H. L. Thompson, Los Angeles.—p. 469.
The Traumatic State. E. Butler, San Francisco.—p. 474.
Rôle of the General Practitioner in Present Day Medicine. M. B. Bonta, Los Angeles.—p. 477.
*Nevus Vasculosus Accompanied by Streptococcic Bacteremia: Report of Case Complicated by Immediate and Complete Gangrene. M. T.-R. Maynard, San Jose.—p. 479.
The Cost of Industrial Medical Care. T. S. Carey, Los Angeles.—p. 481.
Ocular Coloboma: Report of Cases. C. A. Wilson, Santa Barbara.—p. 484.
Dermatologic Pen Points. M. Scholtz, Los Angeles.—p. 486.
Placenta Praevia. L. J. Tiber and J. L. Goldenberg, Los Angeles.—p. 489.
Public Health Significance of the Dietary Habits of People on Relief. A. E. Larsen, San Francisco.—p. 491.
Peptic Ulcer: The Bearing of Its Symptoms on Indications for Operation. A. L. Bloomfield, San Francisco.—p. 494.
Syphilis and Blindness. M. N. Beigelman, Los Angeles.—p. 497.
Congenital Ichthyosis (Collodion Skin). R. P. Seitz, San Francisco.—p. 500.
Agranulocytosis. O. C. Railsback, Woodland.—p. 503.
The Importance of Lesions of the Intervertebral Disks in Relation to Trauma. W. Bailey and R. T. Taylor, Los Angeles.—p. 509.

**Nevus Vasculosus Accompanied by Streptococcic Bacteremia.**—Maynard reports a case of gangrene of vascular nevi concomitant with streptococcic bacteremia in which all the angiomatous tissue, even those portions foreign to and having no definite connection with one another, were also immediately involved in the same process. The patient, a baby of 9 weeks, was brought for the treatment of two small ulcers, one on the buttock adjacent to the anal opening, the other in the anogenital fold. There was an extensive nevus vasculosis of rather punctate distribution over the entire right leg, the entire right buttock and the lower right quadrant of the abdomen. In addition to this there was a large lesion involving the greater part of the dorsum of the right hand. This lesion was raised and unbroken in character. The left side of the body showed no lesions. The lesions were all bright red. The ulcers were painted with Millian's dye and were dressed with bismuth violet ointment. Three days later the ulcers were clean and appeared to be healing. The baby was seen at 3:30. At about 6 p. m. of the same day the baby was reported to be in considerable pain and feverish. He was hospitalized, at which time the birthmarks appeared somewhat paler. The next morning all the areas were blanched and white. The surrounding skin was normal. The blanched areas also included the large lesion on the right hand. Not one of the previous nevus areas showed any evidence of circulation. Twenty-four hours later vesicles had formed on practically all lesions. The baby's temperature was 104 F. and he cried continuously. The picture was typically that of moist gangrene. Dry heat was applied and gentian violet dye was painted over the skin. Blood culture and direct smears from the vesicle showed a large number of streptococci. On the fourth day of the disease the temperature was still high and an abscess of the left wrist joint developed which, on incision, discharged a thick greenish yellow pus. He was given antistreptococcic vaccine. Within the next few days other abscesses occurred within the right wrist joint, on the dorsum of the left foot and on the right buttock (showing necrotic tissue). The angiomatous tissue continued to a state of dry gangrene and all evidence of local infection of the areas of the skin disappeared. The day after the antistreptococcic vaccine was given erysipelas vaccine was also administered and the baby was given two blood transfusions, the mother being the donor. The baby died on the twelfth day. Necropsy showed very little in the way of abscesses in the internal organs. The apparent extreme pain and the suddenness of the attack indicate that the pain was due to the complete ischemia of the large areas of the skin involved. All areas of the lesion developing an anemic necrosis simultaneously demonstrate that the origin of the vascular changes was undoubtedly hemogenous. The source of the infection was probably from the ulcers near the anus in an area impossible of complete sterilization. The progress of the disease aside from the changes mentioned was plainly that of a streptococcic bacteremia.

## Canadian Medical Association Journal, Montreal

**35:** 1-116 (July) 1936

*Congenital Lung Cysts. J. D. Adamson, St. Boniface, Manit.—p. 1.
Carcinoma of Larynx: Plea for More Conservative Survery in Certain Cases Where Larynectomy Might Be Considered Necessary. N. Patterson, London, England.—p. 7.
Clinical and Anatomic Study of Sciatica. J. A. Nutter, Montreal.—p. 11.
Primary Sarcoma of the Breast: Report of Four Cases. E. B. Boldrey, Montreal.—p. 16.
Leiomyosarcoma of Ileum. J. G. McDermott, Hamilton.—p. 22.
Internal Frontal Hyperostosis Syndrome. D. Eisen, Toronto.—p. 24.
Effect of Repeated and Prolonged Stimulation of Vagus Nerve in Dog. G. H. Ettinger, G. E. Hall and F. G. Banting, Toronto.—p. 27.
Estimation of Proteins of Blood Plasma. A. T. Cameron, J. S. Guthrie and F. D. White, Winnipeg, Manit.—p. 32.
Notes and Observations on Hyperpiesia. A. B. Walter, St. John, N. B.—p. 38.
Mental Disease Following Carbon Monoxide Poisoning. T. E. Dancey and G. E. Reed, Montreal.—p. 47.
The Association of Pregnancy, Hypochromic Anemia and Achlorhydria: Preliminary Report. J. R. Goodall and R. Gottlieb, Montreal.—p. 50.
*Presacral Sympathectomy as Treatment of Obstinate Dysmenorrhea. N. Shaul, Toronto.—p. 53.
Some Experiences with Cyclopropane as an Anesthetic, with Especial Reference to Diabetic Patient. W. B. Neff and J. A. Stiles, Philadelphia.—p. 56.
Embolism in Peripheral Arteries. D. W. G. Murray, Toronto.—p. 61.
Rectovaginal Fistula and Stricture of Rectum Due to Lymphogranuloma Inguinale: Case. H. W. Johnston, Toronto.—p. 66.
Gastric Ulcer Cured by Gastrectomy After Forty-Five Years of Treatment. G. Miller, Montreal.—p. 68.

**Congenital Lung Cysts.**—Adamson states that the clinical recognition of congenital cystic lung has become possible only since roentgenography and bronchoscopy have come into common use. Antemortem diagnosis has been made only within the last ten years. The condition has ceased to be a mere pathologic curiosity and has become a clinical entity of importance. It must be kept constantly in mind when making a differential diagnosis in chronic pulmonary disease of any sort. Interest is enhanced by the fact that almost any chronic condition of the lung may be simulated. Cases have been mistaken for and reported as chronic pneumothorax, chronic cavitating tuberculosis, chronic pleurisy with effusion, diaphragmatic hernia, chronic empyema, chronic abscess neoplasm and the like. Four new cases are reported and the classification, clinical characteristics and pathogenesis are discussed briefly.

**Presacral Sympathectomy as Treatment of Dysmenorrhea.**—Shaul reviews the anatomy and technic involved in the operation and reports the results of presacral sympathectomy in three cases of obstinate dysmenorrhea and also its effect on pregnancy and labor in one case. Although an unsatisfactory result was obtained in one case, the excellent results in the other two make the author feel that resection of the hypogastric plexus in selected cases is a beneficial operation which will in time find a definite place in the gynecologist's armamentarium. It has no harmful effect on pregnancy and labor. It has no permanent deleterious effects on the bladder or rectum but

rather favorable results in relieving constipation. It should be done only in properly selected cases and after all other treatments are exhausted. It is also used as a relief measure for excruciating pain in malignant conditions of the pelvis.

## Canadian Public Health Journal, Toronto

**27:** 313-366 (July) 1936

A Hospital Epidemic of Paratyphoid A. A. R. Foley and J. L. Faille, Quebec, and K. F. Brandon, Toronto.—p. 313.
Some Problems in Scarlet Fever. R. B. Jenkins, Edmonton, Alta.—p. 324.
Fumigation. H. E. Rothwell, Toronto.—p. 329.
The Doctor in Industry. G. L. Bird, Oshawa, Ont.—p. 333.
Travel Habits and Control of Odors. J. Van Benschoten, Toronto.—p. 337.

## Delaware State Medical Journal, Wilmington

**8:** 143-162 (July) 1936

Fetal Mortality in Relation to Types of Delivery. N. W. Vaux, Philadelphia.—p. 143.
Certain Phases of Acute Otitis Media. C. P. White, Wilmington.—p. 146.
The "E's" of Nursing. W. E. Bird, Wilmington.—p. 151.

## Journal of Biological Chemistry, Baltimore

**114:** 357-566 (June) 1936. Partial Index

Further Study of Growth Effect of Residue Remaining After Alcoholic Extraction of Yeast. Marion Reinhardt Rymer and R. C. Lewis, Denver.—p. 361.
Protein Content of Human Parotid Saliva. R. G. Bramkamp, Banning, Calif.—p. 369.
Ionization Constants of Calcium Proteinate Determined by Solubility of Calcium Carbonate. E. G. Weir and A. B. Hastings, Chicago.—p. 397.
Examination of Sullivan Colorimetric Test for Guanidine. C. E. Braun and F. M. Rees, Burlington, Vt.—p. 415.
Spontaneous Decomposition of Cystine Dimethyl Ester. R. D. Coghill, New Haven, Conn.—p. 419.
Evidence Concerning Two Types of Plant Diastase. G. L. Teller, Chicago.—p. 425.
Effects of Ingested Cottonseed Meal on Distribution of Constituent Fatty Acids of Goat Milk. R. W. Riemenschneider and N. R. Ellis, Washington, D. C.—p. 441.
*Metabolism of Glycollic Acid in Progressive Muscular Dystrophy. A. T. Milhorat and V. Toscani, New York.—p. 461.
Chemistry of Lipids of Tubercle Bacilli: XLVI. Phthiocerol, a New Alcohol from Wax of Human Tubercle Bacillus. F. H. Stodola and R. J. Anderson, New Haven, Conn.—p. 467.
Modified Method for Study of Tissue Oxidations. V. R. Potter and C. A. Elvehjem, Madison, Wis.—p. 495.
Antirachitic Effectiveness of Vitamin D from Various Sources. R. W. Haman and H. Steenbock, Madison, Wis.—p. 505.
Some Applications of New Color Reaction for Creatinine. S. R. Benedict and Jeanette Allen Behre, New York.—p. 515.
Reagents for Isolation of Carbonyl Compounds from Unsaponifiable Material. Marjorie Anchel and R. Schoenheimer, New York.—p. 539.
Potentiometric Adaptation of Shaffer-Hartmann Sugar Method. L. F. Ney and E. S. West, Portland, Ore.—p. 547.

**Metabolism of Glycollic Acid in Progressive Muscular Dystrophy.**—Milhorat and Toscani studied the effect of glycollic acid on the excretion of creatine in patients with progressive muscular dystrophy. The subjects' ability to retain exogenous creatine was considerably impaired. They were kept in a special metabolism ward which permitted the quantitative collection of all specimens. The diet, which was creatine-creatinine free, was supervised rigorously and kept constant for each experimental period. The nitrogen intake for the aminoacetic and glycollic periods was kept unchanged. Following an adequate control period, the patients were given glycollic acid, neutralized with sodium hydroxide. There was an increase in the output of creatine when glycollic acid was given, although the effect was considerably less than that produced by equivalent amounts of aminoacetic acid. When 20 Gm. of glycollic acid was given, the average increase in the urinary creatine was 0.057 Gm. in the following twenty-four hour period. Equivalent amounts of aminoacetic acid increased the creatine output 0.188 Gm. The average rise in the creatine output after 10 Gm. of glycollic acid was 0.052 Gm., whereas the same amount of aminoacetic acid was followed by an average increase of 0.116 Gm. in urinary creatine. The output of oxalic acid in the urine was determined in two subjects. During three control periods of from two to four days each, the average daily excretion of oxalic acid was from 0.001 to 0.0015 Gm. No increase in the output of oxalic acid was observed when 20 Gm. of glycollic acid was given daily for three periods of four days each. The results suggest the possibility that glycollic acid can be converted into aminoacetic acid in the organism. On the other hand, the synthesis of creatine from glycollic acid without the intermediate formation of aminoacetic acid or a mere stimulatory effect of the glycollic acid on the creatine mechanism must be considered as possible, but perhaps less likely, explanations for the small increases in the creatinuria. Either no oxalic acid was formed by the oxidation of the glycollic acid or the amounts produced were less than those that the body is capable of destroying.

## Journal of Bone and Joint Surgery, Boston

**18:** 559-822 (July) 1936. Partial Index

Fractures of Os Calcis. R. O. Schofield, Sacramento, Calif.—p. 566.
Old Dislocations of Shoulder. G. E. Bennett, Baltimore.—p. 594.
Reconstruction of Digital Tendon Sheath: Contribution to Physiologic Method of Repair of Damaged Finger Tendons. L. Mayer and N. Ransohoff, New York.—p. 607.
*Roentgen-Ray Therapy of Bone Tumors. H. W. Meyerding, Rochester, Minn.—p. 617.
Difficulties in Diagnosis of Bone Tumors. R. I. Harris, Toronto.—p. 631.
Frozen-Section Diagnosis of Tuberculous Joints. W. E. Swift, New York.—p. 641.
*Acute Transverse Bone Atrophy. W. G. Stern, Cleveland.—p. 659.
Inflammatory Localized Lesions of Juxta-Epiphyseal Zone of Neck of Femur. D. Logròscino, Trieste, Italy; translated from the Italian by E. Freund, Venice, Fla.—p. 671.
*Sacrarthrogenetic Telalgia: III. Study of Alternating Scoliosis. H. C. Pitkin and H. C. Pheasant, San Francisco.—p. 706.
Study of Fusion of Spine with Particular Reference to Articular Facets. S. L. Haas, San Francisco.—p. 717.
Knee-Flexion Test for Pathology in Lumbosacral and Sacro-Iliac Joints. I. W. Nachlas, Baltimore.—p. 724.
Panastragaloid Arthrodesis: Study of End Results in Eighty-Five Cases. W. R. Hamsa, Iowa City.—p. 732.
Stabilization of Pathologic Dislocation of Hip in Children. J. B. L'Episcopo, Brooklyn.—p. 737.
Therapeutic Active Principle of Maggots: Description of Its Clinical Application in 567 Cases. S. K. Livingston, Hines, Ill.—p. 751.
Simple Method for Ambulatory Correction of Flexion Contracture of Knee: Use of Continuous Elastic Tension as Corrective Force. S. S. Gaynor, New York.—p. 766.
Intratarsal Dislocation: Report of Case of Anterior Midtarsal Dislocation. H. H. Ritter and W. D. Ludlum Jr., New York.—p. 773.
Bilateral Recurrent Dislocation of Ulna at Elbow. H. Milch, New York.—p. 777.
Method of Immobilizing Chest. A. M. Brown, Chicago.—p. 787.
Acute Osteomyelitis of Scapula (Acromion Process). W. E. Brogden, Canton, Ohio.—p. 795.

**Roentgen Therapy of Bone Tumors.**—Meyerding believes that the usefulness of preoperative application of irradiation is very limited and that its indiscriminate use may be more harmful than beneficial. What is needed is early diagnosis, destruction or removal of the tumor, and prevention of metastasis by whatever means may be available. Postoperative irradiation has been employed following biopsy, excision, curettage and amputation in the hope that remaining cells may be destroyed, that metastasis may be prevented, or that unrecognizable metastasis may be adequately dealt with. For this reason the common sites of metastasis and the territory occupied by the lymphatic structures that drain the region of the tumor are irradiated; if the malignant cell present is of a radiosensitive type there is some hope that the remaining elements will be destroyed. The beneficial effects from this form of treatment partly result from the action of the rays on the blood vessels and the formation of connective tissue; the malignant cells that remain become enclosed in masses of fibrous tissue, of which the blood supply is impaired and growth is thus inhibited. Late recurrence may be explained in this manner in some cases, but the author has seen malignant cells at the site of previous operation and extensive irradiation when clinical manifestations of tumor were not present. Postoperative irradiation may be one of the reasons why more five year cures are recorded now than formerly, but the author thinks an equally important reason is that diagnosis is made earlier than formerly and therefore efficient treatment is carried out. The response to irradiation usually will be determined by what cell is predominant. There is a difference between the radiosensitiveness of tissues and cells of normal structures and the radiosensitiveness of tumors. Knowledge is accumulating as to the methods of application of radiation to tumors of various situations and various cellular

classifications; at present, repeated courses of protracted fractional irradiation, with cross-firing, appears to be the most satisfactory method.

**Acute Transverse Bone Atrophy.**—Stern calls attention to the occurrence of a form of acute bone atrophy seen in fifteen young adults, usually after fixation of a limb for fracture. This phenomenon has also been seen by him in four cases after disuse because of nonpurulent infection in neighboring joints, and in two cases of tumor formation in the limb. This type of atrophy takes the form of a broad translucent band of bone resorption on the diaphyseal side of the epiphyseal line, parallel to the axis of the neighboring joint. Unlike the cases of Sudeck's atrophy, which usually occur in the smaller bones, the author's cases, with but one exception, have been confined to the long bones of the lower extremity—usually to the lower end of the tibia. There have also been three cases of transverse atrophy at the upper end of the tibia and the lower end of the femur, one through the neck of the femur (horizontal) and another vertically through the neck of the scapula. This band occupies the same position as does a similar band of radiolucency in scurvy. This peculiar form of atrophy should not be mistaken for fracture or acute disease.

**Study of Alternating Scoliosis.**—Pitkin and Pheasant found twenty-two cases of alternating scoliosis mentioned in the literature. The apparent rarity of this condition is due to the fact that only the more spectacular cases have been reported. They found sixty-eight cases of alternating scoliosis in their records of 506 examinations for low back disability. Six cases showed the spectacular type of active alternation. The pain of alternating scoliosis is the typical sacrarthrogenic telalgia that is caused by pathologic tension in the extra-articular ligaments of the upper sacral joints. The scoliosis is caused by one or more fixed pathologic positions of one or more of the upper sacral joints. Alternation is due to a change in the fixed pathologic position of one or more of the upper sacral joints. Either sacro-iliac joint may become fixed in one of four pathologic positions (sacro-iliac slips), which the authors have classified as flexion, extension, increased angle and decreased angle slips.

## Journal of Clinical Investigation, New York

**15:** 335-474 (July) 1936

Normal Duration of Electrocardiographic Ventricular Complex. W. Adams, Chicago.—p. 335.
Combined Cord Degeneration Without Anemia: Case Report with Studies Bearing on "Intrinsic Factor" of Castle. W. L. Palmer and R. T. Porter, Chicago.—p. 343.
Undernutrition in Treatment of Coronary Artery Disease (Particularly Thrombosis): Effect on Basal Metabolism and Circulation. A. M. Master, H. L. Jaffe and S. Dack, New York.—p. 353.
*Studies of Ascorbic Acid and Rheumatic Fever: I. Quantitative Index of Ascorbic Acid Utilization in Human Beings and Its Application to Study of Rheumatic Fever. J. Sendroy Jr. and M. P. Schultz, New York.—p. 369.
*Id.: II. Test of Prophylactic and Therapeutic Action of Ascorbic Acid. M. P. Schultz, New York.—p. 385.
Study of External Pancreatic Secretion in Man. B. Kogut, M. J. Matzner and A. E. Sobel, Brooklyn.—p. 393.
Simultaneous Plasma Clearances of Creatinine and Certain Organic Compounds of Iodine in Relation to Human Kidney Function. E. M. Landis, K. A. Elsom, P. A. Bott and E. H. Shiels, Philadelphia.—p. 397.
*Nitrogen Metabolism in Anemia During Regeneration of Blood. C. W. Heath and F. H. L. Taylor, Boston.—p. 411.
Metabolic Studies of Changes in Body Electrolyte and Distribution of Body Water Induced Experimentally by Deficit of Extracellular Electrolyte. D. C. Darrow and H. Yannet, New Haven, Conn.—p. 419.
Passive Transfer Antibodies for Six Saprophytic Fungi in a Patient with Superficial Scaling Dermatosis. E. L. Persons and D. S. Martin, Durham, N. C.—p. 429.
Concerning Specific Response of Guinea-Pig's Reticulocytes to Substances Effective in Pernicious Anemia. L. S. Goodman, A. J. Geiger and T. G. Klumpp, New Haven, Conn.—p. 435.

**Studies of Cevitamic Acid and Rheumatic Fever: I. Quantitative Index of Cevitamic Acid Utilization in Human Beings and Its Application to the Study of Rheumatic Fever.**—Applied to subjects with rheumatic fever, the excretion tests, relative to the controls, indicated to some degree, an apparent cevitamic (ascorbic) acid deficiency in eight of thirteen cases. Of these, Sendroy and Schultz ascribes the result in only two cases solely to poor diet. In the other six cases vomiting occurred or else there was an incomplete absorption from or destruction of cevitamic acid in the alimentary canal during the test. Apparently, even in control cases, when there was a nutritional disturbance or anorexia during the test the cevitamic acid, regardless of the previous diet, was not well assimilated and was destroyed to a greater extent than usual. Through digestive disturbances, patients with rheumatic fever evidently may develop a real hypovitaminosis on an ordinarily adequate diet. One would expect in such patients that the tissues might be depleted not only of cevitamic acid but of other vitamins and essential food constituents of which there may not be large reserves in the body. However, if it is assumed, contrary to the evidence of the experiments, that it is simply cevitamic acid deficiency that is associated with every case of rheumatic fever, it seems much more reasonable to regard the train of events, including digestive disturbances leading to such depletion of the tissues, as caused by an infectious process rather than to think of the cevitamic acid deficiency as initiating the infection. It seems certain that the factor of infection is present in all cases of rheumatic fever, whereas the signs of cevitamic acid subnutrition, if present, are probably incidental. Such signs of deficiency as have been found are only relative and not absolute. The average results set too high a standard of normality so that degrees of cevitamic acid deficiency, relative to the control cases previously on diets of about 100 mg. of cevitamic acid a day, would be exaggerated in the direction of ratings too low for cevitamic acid nutrition. When all these factors are taken into consideration, it is difficult to accept subclinical scurvy as an etiologic agent in rheumatic fever.

**Studies of Cevitamic Acid and Rheumatic Fever: II. Test of Prophylactic and Therapeutic Action of Cevitamic Acid.**—Schultz observed two comparable groups of rheumatic children, one of them receiving daily doses of cevitamic acid at intervals during the later winter and early spring. As indicated by tests of capillary permeability, the development of subclinical scurvy was prevented in the treated group, but the incidence of active rheumatic fever was not favorably affected by this medication. The clinical manifestations of acute rheumatic fever were not demonstrably affected by the oral or intravenous administration of cevitamic acid over periods of several months. Large doses of orange juice also were ineffective. These data are additional evidence that cevitamic acid deficiency is not a necessary factor in the etiology of rheumatic fever.

**Nitrogen Metabolism in Anemia During Regeneration of Blood.**—Heath and Taylor studied the effect of hemoglobin regeneration on nitrogen retention, on the plasma protein and nonprotein nitrogen and on the tissue nitrogen in nine severely anemic patients. Regeneration of blood occurred during the period of observation in five patients with hypochromic anemia when iron was administered, in two patients with pernicious anemia following administration of material specifically active in this condition, and in one patient with scurvy following the administration of an adequate diet. The other patient suffering from hypochromic anemia did not receive medication during the period of observation and was used as a control. The patients were given diets that were adequate in calories but were usually low in protein. Water and table salt were unrestricted. Urine was collected for three-day periods. In two instances stools were collected for three-day periods. Venous blood was collected usually every other day. Red blood cell counts and cell volume measurements were made on this blood. The hemoglobin was measured by a specially calibrated Sahli instrument. Reticulocytes were counted daily on smears stained supravitally with brilliant cresyl blue. The blood volume was measured, usually every fourteen days, by means of the vital red technic as described by Rowntree, Brown and Roth. All chemical analyses were made in duplicate. The plasma proteins were determined on oxalated blood plasma by the Kjeldahl method, with the macro modification of Howe. The nonprotein nitrogen and the urinary nitrogen were determined by the microchemical methods of Folin. Stools were collected in sulfuric acid, mixed to a homogeneous suspension, weighed, and aliquot samples taken for determination of nitrogen by the usual Kjeldahl method. Analysis of circulating whole blood nitrogen was calculated from the hemoglobin readings and plasma protein values. Determinations of the nitrogen

content of washed red blood cells and of hemolyzed red blood cells, free of plasma and stroma, were compared with the amount of hemoglobin ascertained from the Van Slyke oxygen capacity method. It was found that hemoglobin formation is accompanied by a positive nitrogen balance only when the diet contains somewhat more than 6.2 Gm. of nitrogen a day. Hemoglobin formation, however, proceeds at a normal rate even in the face of a negative nitrogen balance. The demand for nitrogen under these circumstances seems to be supplied by tissue and plasma nitrogen. With diets low in protein, extremely low values for daily nitrogen excretion may be observed during blood regeneration, and a reduction of the plasma nonprotein nitrogen is characteristic. The blood plasma seems to take an important part in the storage and transportation of nitrogenous substances. In the treatment of anemia a diet adequate in protein is necessary in order to replace tissue nitrogen that may have become diminished before or during hemoglobin regeneration.

## Journal of Experimental Medicine, New York

**63:** 789-960 (June 1) 1936


Effect of Prolonged Application of Large Doses of Follicular Hormone on Uterus of Rabbits. B. Zondek, Jerusalem, Palestine.—p. 789.

Prothrombin Deficiency Cause of Bleeding in Bile Fistula Dogs. W. B. Hawkins, Rochester, N. Y., and K. M. Brinkhous, Iowa City.—p. 795.

Studies with Human Influenza Virus Cultivated in Artificial Medium. T. P. Magill and T. Francis Jr., New York.—p. 803.

On Group Specific A Substances: III. Substance in Commercial Pepsin. K. Landsteiner and M. W. Chase, New York.—p. 813.

Quantitative Studies on Precipitin Reaction: Effect of Salts on Reaction. M. Heidelberger, F. E. Kendall and T. Teorell, New York.—p. 819.

Experimental Encephalitis (St. Louis Type) in Mice with High Inborn Resistance: Chronic Subclinical Infection. L. T. Webster and Anna D. Clow, New York.—p. 827.

Persistence of Lymphocytic Choriomeningitis Virus in Immune Animals and Its Relation to Immunity. E. Traub, Princeton, N. J.—p. 847.

Protective Action of Nasally Instilled Immune Serum Against Infection with Certain Neurotropic Viruses by Way of Nose. A. B. Sabin, New York.—p. 863.

Protective Action of Certain Chemicals Against Infection of Monkeys with Nasally Instilled Poliomyelitis Virus. A. B. Sabin, P. K. Olitsky and H. R. Cox, New York.—p. 877.

Some Effects of Ovariectomy During Period of Declining Reproductive Powers in Mice. W. S. Murray, Bar Harbor, Maine.—p. 893.

Influence of Intra-Uterine Factors on Fetal Weight of Rabbits. P. D. Rosahn and H. S. N. Greene, New York.—p. 901.

Mechanism of Immunity in Tuberculosis: Host Parasite Relationship Under Conditions of Localized Agar Focus of Infection and Generalization of Disease in Normal and Immunized Rabbits. M. B. Lurie, Philadelphia.—p. 923.


## Journal of Nutrition, Philadelphia

**11:** 495-620 (June 10) 1936


Use of Three Day Periods in Human Metabolism Studies: Calcium and Phosphorus. S. I. Pyle and C. E. Huff, with the assistance of R. Davis, Yellow Springs, Ohio.—p. 495.

Potential Alkalinity of Honey: Its Acid-Base Value as Food. R. E. Lothrop, Washington, D. C.—p. 511.

Improved Synthetic Ration for Vitamin $B_1$ Studies. O. L. Kline, H. R. Bird, C. A. Elvehjem and E. B. Hart, Madison, Wis.—p. 515.

Pellagra-like Syndrome in Chicks. S. Ansbacher, G. C. Supplee and R. C. Bender, Bainbridge, N. Y.—p. 529.

Study of Seasonal Variation of Vitamin D in Normal Cow's Milk. H. E. Bechtel and C. A. Hoppert, East Lansing, Mich.—p. 537.

Relation Between Calcium Retention and Store of Calcium in Body, with Particular Reference to Determination of Calcium Requirements. B. W. Fairbanks and H. H. Mitchell, Urbana, Ill.—p. 551.

*Study of Dietary Factors Concerned in Nutritional Muscular Dystrophy. S. Morgulis and H. C. Spencer, Omaha.—p. 573.

Changes in Vaginal Epithelium of Rat on Excessive Vitamin A Diet. T. C. Sherwood, M. A. Brend and E. A. Roper, Lexington, Ky.—p. 593.

Vitamin C Content of Human Milk and Its Variation with Diet. Iva Selleg and C. G. King, Pittsburgh.—p. 599.

Lafayette Benedict Mendel: An Appreciation. W. C. Rose, Urbana, Ill.—p. 607.


**Dietary Factors in Nutritional Muscular Dystrophy.**—Morgulis and Spencer could not prevent muscle dystrophy in the rabbit by the addition to the diet, originally used by Goettsch and Pappenheimer 1931 (diet 13), of dry alfalfa, a vegetable oil, lettuce, vitamin A (carotene in oil), vitamin E (cold pressed wheat germ oil) or vitamin B (yeast). Neither the omission of the ethereal-ferric chloride treatment nor the substitution of aqueous-ferric chloride treatment of the basic diet entirely abolished its dystrophy producing effects. Prevention of muscle dystrophy as well as cure of the dystrophy already developed was effected by feeding the following supplements along with the dystrophic diet 13: fresh green alfalfa, lettuce and vitamin E (wheat germ oil), dry alfalfa and vitamin E (wheat germ oil) or whole wheat germ. The experimental results lead to the conclusion that there must be at least two factors involved in the prevention or in the cure of muscle dystrophy. Both factors are present in fresh green alfalfa or in whole wheat germ. On the other hand, one of these factors is supplied by wheat germ oil (cold pressed), while the other is present in lettuce or in dry alfalfa. At least one of the factors is easily destroyed by ethereal-ferric chloride, by drying or by extraction with water or alcohol.

## Journal of Pediatrics, St. Louis

**8:** 657-798 (June) 1936


The Pediatrician Today and Tomorrow. H. Dietrich, Los Angeles.—p. 657.

Gastro-Intestinal Portal of Entry in Poliomyelitis. J. A. Toomey, Cleveland.—p. 664.

Reactions from Alum Toxoid. A. L. Shafton, Normal, Ill.—p. 676.

*Hematology and Pathology of Leukemic Reticulo-Endotheliosis: (Monocytic Leukemia) Occurring in an Eighteen Months Old Infant. K. Kato, Chicago.—p. 679.

Ratbite Fever: Report of Case with Serologic Observations. P. V. Woolley Jr., Boston.—p. 693.

Anaphylactoid or Allergic Purpura. J. Diamond, St. Louis.—p. 697.

*III. Treatment of Several Types of Adiposogenital Dystrophy in Boys, with Particular Reference to Use of Gonadotropic Hormone from Urine of Pregnant Women for Their Imperfectly Developed Genitals. G. B. Dorff, Brooklyn.—p. 704.

Mesenteric Thrombosis in Case of Chronic Mastoid Suppuration. G. J. Feldstein and J. H. Goldstein, Pittsburgh.—p. 720.

The Problem of Dental Caries with Relation to Bacteria and Diet. P. Jay, Ann Arbor, Mich.—p. 725.

Deterioration of Cod Liver Oil and Diet of Children. Dorothy V. Whipple, Philadelphia.—p. 734.

Abdominal Puncture in Diagnosis of Peritonitis in Childhood. B. S. Denzer, New York.—p. 741.

Indications for Urologic Investigation in Children. M. F. Campbell, New York.—p. 748.


**Leukemic Reticulo-Endotheliosis.**—Kato presents his clinical, pathologic and hematologic studies of a case of reticulo-endotheliosis (monocytic leukemia) in a male infant 18 months of age. The disease constitutes a clinical and pathologic entity that may occur at any age period. Clinically the condition is indistinguishable from any other type of acute leukemia, the common symptoms being an acute course, anemia and pallor, hemorrhagic tendency and hyperplasia of the hematopoietic organs. The exact nature of the stimulus activating this multiple hyperplasia is extremely difficult to ascertain. The pathologic picture of the organs suggests a similarity to multiple neoplastic or malignant hyperplasia of the histiocytic apparatus. Because the proliferative alterations were so generalized and so extensive, the malady was inevitably fatal. No therapeutic measures are successfully applicable to such a widely and rapidly spreading process. In spite of the extreme hyperplasia of the reticulo-endothelial system, the peripheral blood reflects no increase in white blood cells, the one feature which stands out in sharp contrast to the conspicuous leukocytosis produced in the other reported instances of monocytic leukemia. The pathologic cells involved are large mononuclear ones, averaging from 25 to 50 microns in dimension. The qualitative blood picture is in complete conformity with that encountered in typical monocytic leukemia with quantitative increase in the total cell count. It therefore reasonably follows that "monocytic leukemia" is a synonym for leukemic reticulo-endotheliosis, the former term being a clinical nomenclature and the latter a pathologic concept. The organs which in this instance showed the greatest degree of histiocytic proliferation were the bone marrow, lymph nodes, the entire gastro-intestinal tract and the thymus. The normal histologic architecture was effaced because of pronounced infiltration of these tissues by the pathologic cells. The submucosa of the whole gastro-intestinal tract was the seat of marked monocytic proliferation. Next in order of hyperplasia were the lungs, liver, kidneys, pancreas, subcutaneous tissues, the adipose tissues surrounding the heart, the epididymis and the serous membranes. In the skin the infiltration of the histiocytic elements often presented a nodular appearance.

**Treatment of Adiposogenital Dystrophy in Boys.**—Dorff treated nine boys, from 3.3 to 14.3 years of age, with undescended or hypoplastic testes and with hypoplastic external

genitals (adiposogenital dystrophic type) with a therapy that varied from the gonadotropic hormone of pregnancy urine and dietary restrictions in the adiposogenital dystrophic type—hypogonad patients—to the gonadotropic principle of pregnancy urine, dietary restrictions and the supplementary use of desiccated thyroid in the adiposogenital dystrophic type—hypothyroid patients. The congenital hernia—whether potential or markedly noticeable—that accompanied an undescended testis situated intra-abdominally or at the internal ring could be corrected when the testis becomes resident in the scrotum through the stimulation of the gonadotropic hormone. While the author was not aware as to what initiated the normal descent of the testis, in cases in which there had been delay in descent, this descent could be initiated by endocrine stimulation and the whole inguinal region could usually be brought to maturation in the male child through the influence of this same endocrine stimulus. The value of combined therapy was shown in that not only was genital development stimulated and genital maldevelopment corrected but also many of the other accompanying deficiencies of a skeletal, somatic or mental nature usually could be improved and redirected toward the normal.

## Journal of Urology, Baltimore

**35:** 583-696 (June) 1936

The Future of the Southeastern Branch Society. M. L. Boyd, Atlanta, Ga.—p. 583.
The Problem of Fused Kidney. W. E. Lower, Cleveland.—p. 588.
Methods of Diverting Urine Above Level of Bladder, with Particular Reference to Problems of Technic. H. Cabot, Rochester, Minn.—p. 596.
Total Perineal Prostatectomy for Carcinoma. G. G. Smith, Boston.—p. 610.
Urinary Complications in an Epidemic of Poliomyelitis. B. W. Wright, Los Angeles.—p. 618.
*Excretory Urography as Test of Renal Function. W. F. Braasch and J. L. Emmett, Rochester, Minn.—p. 630.
Large Ureterocele with Herniation Through the Urethra. F. C. Herrick, Cleveland.—p. 643.
Bone Metastases with Primary Carcinoma of Urinary Bladder. E. D. Zeman, Chicago.—p. 646.
Calculus on Foreign Body Twelve Years After Repair of Vesicovaginal Fistula. M. D. F. Blasucci, New York.—p. 652.
*Carcinoma of Female Urethra. E. M. Watson, Buffalo.—p. 654.
Leiomyoma of Prostate. L. H. Baretz, Brooklyn.—p. 664.
Urogenital Tuberculosis. J. C. Negley, Los Angeles.—p. 668.
Study of Hydrogen Ion Concentration and Crystallography of Normal Urine. L. A. Maslow, Chicago.—p. 674.
Treatment of Prostatitis by Local Heat: Elliott Treatment Regulator. L. G. Lewis, Baltimore.—p. 681.

**Excretory Urography as Test of Renal Function.**—Braasch and Emmett found close agreement in thirty-nine of fifty cases of various diseases of the urinary tract in which both excretory urography and differential tests with indigo carmine were used. Further study of a large series of excretory urograms was then made, grouped according to individual pathologic lesions of the urinary tract. The degree of visualization was compared with the results of other tests of renal function that had been done and with the pathologic changes observed at operation or necropsy. In hydronephrosis, pyelonephritis, polycystic disease and solitary cyst of the kidney the urograms seemed to indicate quite accurately the renal function present. In regard to renal tuberculosis and calculous disease the intensity of visualization in the urogram is often inaccurate in its estimation of renal function. Indigo carmine seems to be slightly better but is also inaccurate. However, the additional data furnished by the urogram as to the anatomic deformity present make up for any disparity in this regard and render excretory urography almost indispensable in the diagnosis of these conditions. In the field of malignant renal tumors excretory urography will often suggest the amount of function remaining, but it is not to be relied on as an index to the extent of neoplastic involvement. With urinary obstruction such as is found in hypertrophy of the prostate gland, excretory urography gives valuable information as to renal function. In this condition the picture of the anatomic deformity is exceedingly valuable, as dilatation of the upper part of the urinary tract is common and can be produced even in the presence of a normal value for blood urea.

**Carcinoma of Female Urethra.**—Watson states that as a urologic lesion carcinoma of the female urethra is being encountered and recognized much more frequently than formerly. It may appear in the third decade of life but usually in the fifth decade. A positive Wassermann reaction may be present and so mask one's best efforts in arriving at an early diagnosis. A single biopsy specimen obtained from a urethral growth may be misleading in the information obtained. In the case of the report "no malignant condition found" the so regarded benign lesion should be carefully watched and, when healing is unduly delayed, further sections obtained. One fourth of the patients in the author's series of seventeen had had "growths" removed from the urethra previously, a predisposing factor to malignant growth. Early recognition and properly instituted treatment gives an appreciable measure of palliation. A four year cure and probably longer may be expected in more than 50 per cent of the cases.

## Laryngoscope, St. Louis

**46:** 407-492 (June) 1936

Roentgenotherapy of Epitheliomas of Upper Air Passages. H. Coutard, Paris, France.—p. 407.
Malignancies of Nasopharynx. L. Kleinfeld, New York.—p. 415.
*Furunculosis of External Auditory Canal, with Especial Reference to Treatment by Bacteriophage. E. M. Freund, Albany, N. Y.—p. 419.
Simple Mastoid Operation and Some Functional Results. F. W. Graef, New York.—p. 427.
Gradenigo's Syndrome Simulating Expanding Intracranial Lesion. W. L. Horn, New York.—p. 437.
External Radical Frontal Sinus Operation with Retention of Original Osteum Frontale. E. Reeves, Passaic, N. J.—p. 446.
Is Sinus Trouble Being Overstressed? Critical Survey of the Sinus Problem. E. Krimsky, Brooklyn.—p. 460.
Severe Nasal Hemorrhage Controlled by Radium Application: Report of Case. J. C. Seal, New York.—p. 473.
New Instrument: Return Flow Antrum Trocar. L. Blumenfeld, Brooklyn.—p. 475.

**Furunculosis of Auditory Canal.**—Freund has found bacteriophage a valuable agent in aborting as well as curing furunculosis of the external auditory canal in the early stages. A number of his patients have shown such prompt response to this method that he recommends the procedure before attempting any other form of treatment. Of more than fifty cases, less than 2 per cent required surgical intervention. The others responded satisfactorily to from three to six applications, supplemented in most instances by one or two injections of the bacteriophage. Bacteriophage injections may be given either in a remote part of the body or directly into the infected area. The bacteriophage is obtained in 20 cc. vials and can be used either for topical application or for hypodermic injection. Streptococcus bacteriophage yielded poor results in the few cases tried. In contrast, the staphylococcus bacteriophage was strikingly effective in practically every case. The staphylococcus bacteriophage was helpful even in the instances in which the streptococcus failed. Furunculosis of the external auditory canal is to be differentiated from mastoiditis, aural polyps, perichondritis, exostoses, carious teeth and granulations.

## Maine Medical Journal, Portland

**27:** 107-138 (June) 1936

Neglected Danger in Treatment of Elbow Fractures. A. L. Gould, Freeport.—p. 116.
Treatment for Rheumatic Infections of Joints and for Sciatica. D. Weeks, Portland.—p. 118.
Gas Gangrene Following Trauma: Report of Three Cases. L. M. Schmidt, Farmington.—p. 123.

## Medical Annals of District of Columbia, Washington

**5:** 151-188 (June) 1936

Forty-Two Years in Medicine. S. Ruffin, Washington.—p. 151.
The Centennial of the Army Medical Library Coincident with the Beginning of Fourth Series of Index Catalogue. E. E. Hume, Washington.—p. 159.
*The "Common Cold" and Asthma. H. S. Bernton, Washington.—p. 164.
Excretion Urography as Diagnostic Aid in Urinary Tract Injuries: Report of Two Cases. G. G. Irwin, Charleston, W. Va.—p. 172.
Gas Bacillus Infections. P. A. Caulfield, Washington.—p. 174.
Fundamentals of Internal Medicine; Diseases of Nervous System. A. Schneider, Washington.—p. 178.

**The Common Cold and Asthma.**—In a study of 455 consecutive allergic patients, Bernton encountered seventy-one who claimed that a cold was responsible for their asthmatic seizures. The age of twenty-seven patients was 10 years or less. Fifty-

one patients gave a positive family history for some manifestation of allergy. The patients readily submitted themselves to tests for protein sensitization. The possible alleviation from the recurring distress proved the incentive to an allergic study. The tests were performed by the cutaneous method with epidermal and miscellaneous proteins, including house dusts, pollens, molds and protein extracts of food materials. The results of the tests show that in the group with a positive family history thirty-six patients have shown positive cutaneous reactions, whereas fifteen have shown negative reactions. The high percentage of positive reactors is in accord with the concept that the tendency to hypersensitiveness is inherited. The clinical evidence definitely points to the common cold as the important predisposing factor to asthma in this group of patients. Forty-four patients in the series gave positive reactions to the various allergens employed. A reaction was adjudged positive if it consisted of a wheal with pseudopodia and a zone of redness, and if it produced a sensation of itching. The inhalant group of allergens yielded more positive reactions than the ingestants, and of the inhalants the pollens ranked first. There is general agreement on the fact that infection during the course of a cold is capable of provoking the asthmatic state. The causal relationship of the common cold to asthma may be summarized as follows: According to one school, the micro-organisms isolated from the sputum are the exciting factors. The other possible view is that a filtrable virus is the contributory factor. In either, even the asthmatic paroxysm is the response of an active and sensitive vagus system to a foreign protein. The basis for the sensitive vagus mechanism in the allergic may be dependent on subtle physicochemical changes.

## Michigan State M. Society Journal, Lansing

**35:** 359-432 (June) 1936

Common Fungous Dermatoses: Their Diagnosis and Management. L. M. Wieder, Milwaukee.—p. 359.
Fractures of the Spine. A. D. La Ferté, Detroit.—p. 366.
*Results of Tonsillectomy in Allergic Patients: Follow-Up Study of 433 Cases. G. L. Waldbott, M. S. Ascher and F. W. Giese, Detroit. —p. 369.
Historical Sidelights on Medical Terminology. H. C. Mack, Detroit. —p. 374.
Value of Pavaex Therapy. H. C. Saltzstein, M. P. Meyers and S. Rosenzweig, Detroit.—p. 385.
Some Lesions of Mouth Due to Streptococcus and Staphylococcus. A. R. Woodburne, Grand Rapids.—p. 387.
Cancer Survey of Michigan. F. L. Rector, New York.—p. 391.

**Results of Tonsillectomy in Allergic Patients.**—Of 1,112 patients with hay fever and asthma, Waldbott and his associates performed tonsillectomy in 228 before the onset of allergic symptoms and in 205 after allergic manifestations had developed. In the 205 allergic individuals, tonsillectomy resulted in definite relief in 1.9 per cent, temporary relief in 1.9 per cent and aggravation of the allergic symptoms in 11.6 per cent. In a control group of sixty patients in whom tonsillectomy was performed after they had been under the authors' care, the results were substantially the same. Tonsillectomy, when performed for conditions other than allergy, was successful in 35.2 per cent of the allergic group and in 36.4 per cent of the "preallergic" group as compared with 72 per cent improvement recorded in normal controls (Kaiser). In 228 patients in whom tonsillectomy was performed before the onset of allergic symptoms, 14.4 per cent developed allergic manifestations within three months, 29.3 per cent within six months and 48.6 per cent within two years after operation. This compares with 26 per cent showing frankly allergic symptoms within three months, 47 per cent within six months and 63 per cent within two years in patients whose tonsils were removed for the relief of "nasal colds" and "bronchitis." Most benefit from tonsillectomy was obtained in the earlier age groups. The operation was practically always a failure in patients more than 25 years of age. The efficacy of the technic of removal did not affect the result. The operation was less successful when performed during the pollen season. Although the results of tonsillectomy were disappointing, the authors believe that tonsillectomy should be performed in patients having frequent infections. In others with allergic catarrh of the upper part of the respiratory tract which may or may not involve the tonsils, they believe that tonsillar tissue is a definite asset to the system and should be preserved.

## Military Surgeon, Washington, D. C.

**79:** 1-84 (July) 1936

Legislation Affecting Medical Department. C. R. Reynolds.—p. 1.
Treatment of War Wounds. D. Lewis.—p. 10.
Management of Thyroid Diseases in the Soldier. E. V. Mastin.—p. 12.
Syphilitic Reinoculation: Report of Seven Cases. J. A. Millspaugh. —p. 25.
The Division Laboratory Section: I. Satisfactory Equipment for Preparation of Sterile Convalescent Serum. L. D. Hertert.—p. 33.
Dextrocardia: Report of Two Cases. H. P. Makel and F. A. Minas. —p. 40.
Typhoid in the Civilian Conservation Corps. G. F. Lull.—p. 45.
Poliomyelitis in the Philippine Islands. C. C. Hillman—p. 48.

## New England Journal of Medicine, Boston

**214:** 1275-1334 (June 25) 1935

Thrombo-Angiitis Obliterans, with Especial Reference to Its Abdominal Manifestations. S. S. Cohen and M. E. Barron, Boston.—p. 1275.
Rural Health Problems, the Problems Themselves, and Their Control. W. Woolner, Ayr, Ont.—p. 1305.
Progress in Psychiatry for 1935. J. M. Thomas, Boston.—p. 1309.

## New York State Journal of Medicine, New York

**36:** 899-958 (June 15) 1936

Ophthalmoscopy in General Practice. C. Berens and J. Zuckerman, New York.—p. 899.
Encephalitis Following German Measles. E. A. Baumgartner, Newark. —p. 907.
Acute Infectious Mononucleosis: Report of Case with 42,000 Leukocytes. K. R. McAlpin, New York.—p. 908.

## Philippine Journal of Science, Manila

**59:** 1-148 (Jan.) 1936. Partial Index

Practical Illustrated Key to Adults of Philippine Anopheles. P. F. Russell, New York, and F. E. Baisas, Manila.—p. 15.
Philippine Mosquitoes, IV: Notes: Pupal and Certain Adult Characters of Some Rare Species of Anopheles. F. E. Baisas, Manila.—p. 65.
American Species of Psychoda (Diptera: Psychodidae). F. Del Rosario, Manila.—p. 85.

## Southern Medical Journal, Birmingham, Ala.

**29:** 651-774 (July) 1936. Partial Index

Preoperative Irradiation of Breast Tumors. J. C. Bloodgood and G. A. Stewart, Baltimore.—p. 651.
*Plastic Repair of Facial Defects Resulting from Radical Extirpation of Cancer. N. Owens, New Orleans.—p. 654.
Cutaneous Lymphoblastoma: Some Remarks on Its Treatment. J. W. Jones and H. S. Alden, Atlanta, Ga.—p. 681.
The Gastritis Problem: Notes on Histologically Verified Cases. G. B. Eusterman, Rochester, Minn.—p. 684.
Gastro-Intestinal Symptoms of Kidney Disease. W. E. Vest, Huntington, W. Va.—p. 696.
Diet and Surgery in Cure of Gastric and Duodenal Ulcers. E. Drennen, Birmingham, Ala.—p. 699.
Observations on Treatment of Diabetes with Protamine Insulin in Office and Hospital. H. Bowcock, Atlanta, Ga.—p. 701.
Evaluation of Gonococcus Bouillon Filtrate (Corbus-Ferry): Statistical Report of 10,000 Cases. B. C. Corbus, Chicago.—p. 710.
Granuloma Annulare: Report of Unusual Case. W. F. Spiller and E. H. Klatt, Galveston, Texas.—p. 715.
*Clinical Deductions from Cytologic Findings of Nasal Secretions. J. R. Hume, New Orleans.—p. 726.
Treatment of Fractures of Tibia and Fibula by Means of Roger Anderson Splint. O. B. Bolibaugh, Washington, D. C.—p. 729.
Children's Teeth in Relation to Pediatric Practice. J. B. Stone, Richmond, Va.—p. 731.
Malaria in Children. W. P. Robert, Vicksburg, Miss.—p. 738.
Factors Concerned in Malaria Control by Drug Treatment. L. L. Williams Jr., Washington, D. C.—p. 743.
Treatment of Malaria by Short Course Method. J. P. Sanders, Caspania, La.—p. 746.

**Plastic Repair of Facial Defects Resulting from Radical Extirpation of Cancer.**—Owens states that facial defects following the radical extirpation of cancer are modified by the resulting loss of tissue and that the method of repair indicated is therefore determined by the extent and location of the deformity. As a result of observation of complications due to certain types of treatment, it is suggested that growths involving skin over cartilage should not be subjected to irradiation because of the high percentage of cartilaginous destruction that follows this procedure. Treatment of cancer by x-rays or radium should always be done by a specialist, competent through long experience to apply radiation in amounts that are adequate.

Patients are too frequently seen who have received inadequate irradiation, and as a result of late manifestations they subsequently seek treatment for lesions that are hopelessly advanced. Microscopic study of all tissue removed by means of the frozen section method should be routine. By means of this technic more involved tissue will frequently be removed which otherwise would have been permitted to remain because of its normal macroscopic appearance. Much can be accomplished in the restoration of defects resulting from the eradication of cancer. Many patients would be less skeptical in subjecting themselves to the eradication of a growth if they could be assured that unsightly deformities would not be a necessary sequel.

**Cytology of Nasal Secretions.**—In connection with their cytologic and clinical studies of rhinosinusitis, Hume concludes that: 1. The polymorphoneutrophils present in the nasal secretions indicate an acute inflammatory reaction. 2. The lymphocytes present in the nasal secretions indicate chronic inflammation with round cell infiltration of the subepithelial layers. 3. The eosinophils present in the nasal secretions in numbers greater than 5 per cent suggest a hypersensitivity, and proper tests should be made before surgical procedures are instituted other than ventilation and drainage. The eosinophil is present only when an allergic background is existent. Its origin and function must be better understood before its exact relation to allergy is established in fact. 4. The presence of the large monocytes in the nasal secretions should be considered as a favorable omen; it indicates that a maximal reparative effort is being made cytologically to combat the pathologic processes. 5. Polymorphoneutrophils or lymphocytes present, in conjunction with eosinophils, would at least suggest a bacterial invasion on an allergic background. 6. The study of the nasal smear should be instituted as a routine measure. With a reasonable degree of accuracy and by a simple procedure one can determine whether one is dealing with an acute inflammation, a chronic process or a possible allergy or an allergy complicated by infection. 7. Smears examined during the treatment of a case will afford information as to the progress being made. 8. It does not seem improbable after many thousand nasal smears have been examined and correlated with the physical and pathologic observations that it will assume the importance as a diagnostic measure that the differential white cell count holds in general infections.

## Texas State Journal of Medicine, Fort Worth

**32:** 69-198 (June) 1936

The Evolution of Medicine. J. H. Burleson, San Antonio.—p. 76.
Memorial Address. L. L. Lee, San Antonio.—p. 80.
The Pioneer Doctor's Wife. Mrs. John T. Moore, Houston.—p. 81.

## Virginia Medical Monthly, Richmond

**63:** 197-262 (July) 1936

Diagnosis and Treatment of Cancer of Large Bowel. J. S. Horsley, Richmond.—p. 197.
Necrosis of Urinary Bladder with Exfoliation: Report of Two Cases. H. D. Wolff Jr., Alexandria.—p. 205.
Arthritis: Its Relationship to Various Foci of Infection. H. H. Wescott, Roanoke.—p. 209.
Some Illustrations of the Relationship of Dental Practice and Medicine. J. B. Williams, Richmond.—p. 211.
Some Recent Advances in Neurosurgery. R. F. Slaughter, Norfolk.—p. 216.
The Management of Allergic Individual. W. A. McGee, Richmond.—p. 219.
*Trichomonas Vaginal Infestation: Discussion of the Parasite, the Course of Disease and Treatments. J. B. Salberg and W. M. Brunet, Chicago.—p. 223.
Present Day Management of Cardiospasm. E. T. Gatewood, Richmond.—p. 227.
Pulmonary Hemorrhage. J. B. Nicholls, Catawba Sanatorium.—p. 230.
Premature Separation of Placenta: Review of Its Status in the Last Ten Years at the Norfolk Protestant Hospital. R. B. Nicholls, Norfolk.—p. 234.
Meningococcus Septicemia: Unusual Case. J. L. Thompson, Washington, D. C.—p. 240.
Report of the Proposed Program of Studies for Nursing Schools. Lulu K. Wolf, Richmond.—p. 243.

**Trichomonas Vaginal Infestation.**—Salberg and Brunet point out that the true rôle of the trichomonas as the cause of persistent and at times intractable leukorrhea has not been established. The two strains of the parasite recognized are Trichomonas hominis, which is found rarely in smears and cultures from the mouth and intestinal tract, and Trichomonas vaginalis, which is discovered in the vaginal secretion. All the cultures have a characteristic odor and form gas. The strains that have been isolated from the mouth and lower intestinal tract of apparently normal individuals are usually smaller and somewhat less active and are more difficult to culture than those isolated from the vagina. The strain of the parasite from the vaginal secretions produces a peculiarly offensive, sourish odor. There undoubtedly is a tissue susceptibility of the vagina—sensitization of an unknown source—in women who are infected. The pathogenicity of the organism is still in doubt and many gynecologists and parasitologists think that other organisms found in the vaginal secretion prepare the soil for the entrance of the trichomonads. Some physicians believe that the primary factor in these infections is a fungus, Monilia, and that the trichomonas occurs symbiotically as a nonpathogen. In many studies of the flora of the vaginal tract it has been demonstrated that the organisms commonly found in healthy individuals and in nonspecific symptomless leukorrhea are frequently associated with the trichomonads. The fact that trichomonads are rarely found in acute gonococcic infections and yet are observed in chronic specific cervicitis leads one to surmise that there is an unknown characteristic of cell protoplasm and tissue fluid which under certain conditions exerts a specific influence and causes the trichomonas to become pathogenic. The most frequent complaint that brings the patient to the physician is a vaginal discharge. In a majority of cases there is an increase of the symptoms prior to and following the menses. Many patients will give a history of an acute vaginal discharge, which subsided without medical attention only to recur at the subsequent menstrual epoch. A leukorrhea, usually copious, watery and foaming or frothing, beginning somewhat suddenly with external smarting and a very disagreeable, sourish odor, is the usual subjective observation. The three principles of great importance to be observed in the treatment of this infection are the maintenance of efficient drainage, the use of a weak antiseptic to destroy the parasites which can be reached, and mild stimulation of the tissues to increase their resistance to the trichomonads. Gentle cleansing with cotton sponges of the entire vaginal tract with tincture of green soap and water is important as a preliminary measure in any type of treatment. In the authors' experience 80 per cent of the cases will be controlled by simple methods, but the remaining 20 per cent will be subject to recurrent exacerbations, and in these cases powders are the most efficacious. Following a gentle cleansing and thorough drying of the vaginal canal, the vagina is filled with a compound of fullers' earth, kaolin and talc.

## West Virginia Medical Journal, Charleston

**32:** 293-344 (July) 1936

Some Difficult Medical Problems. C. G. Morgan, Moundsville.—p. 293.
Recent Trends in Treatment of Fractures. J. C. Pickett, Morgantown.—p. 301.
Chronic Female Urethritis. T. G. Reed, Charleston.—p. 306.
Eczemas of Internal Origin. R. O. Halloran, Charleston.—p. 311.
Congenital Cystic Malformation of Lung: Report of Two Cases. V. L. Peterson, Charleston.—p. 313.
The Doctor on the Witness Stand. C. W. Meadows, Beckley.—p. 317.
Meningococcic Meningitis: Treatment of Case with Meningococcus Antitoxin (Ferry) with Recovery. G. R. Maxwell and R. S. Spray, Morgantown.—p. 319.
Allergic Headache. R. J. Armbrecht, Wheeling.—p. 321.

## Wisconsin Medical Journal, Madison

**35:** 501-592 (July) 1936

Pathology of Carcinoma of Rectum and Rectosigmoid. G. Scullard, Eau Claire.—p. 517.
Diagnosis of Carcinoma of Rectum and Rectosigmoid. A. G. Schuttte, Milwaukee.—p. 521.
Cancer Cell Antigens and Their Therapeutic Significance. J. L. Yates, Milwaukee.—p. 525.
Surgical Treatment of Carcinoma of Rectum. V. C. David, Chicago.—p. 530.
Cancer Reports During 1935: Summary of Reports Received by Wisconsin State Board of Health. G. W. Henika, Madison.—p. 537.
Factors Which Influence the Curability of Mammary Cancer. U. V. Portmann, Cleveland.—p. 538.

## FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

### British Journal of Physical Medicine, London

**11:** 1-20 (May) 1936

Physical Therapy in Austria. M. Ostermann.—p. 2.
Physiotherapy in Belgium. L. Mayer.—p. 3.
Recent Advances in X-Ray Treatment. J. F. C. Braine.—p. 4.
The General Principles of Radium Therapy. H. S. Souttar.—p. 6.
Massage, Manipulation and Movement: Survey of Recent Advances in Treatment. J. Mennell.—p. 8.
Diet and Physiotherapy. Edith J. L. Pearce.—p. 11.

### British Journal of Radiology, London

**9:** 351-414 (June) 1936

Fungoid Conditions of Lungs. R. Fawcitt.—p. 354.
*Some Direct Measurements of Distribution of Gamma Radiation in Human Tissues by Radium Teletherapy. C. W. Wilson and G. Myers.—p. 379.
Easily Demountable Unit for Teletherapy. W. G. Evans and H. D. Griffith.—p. 390.
Two Cases of Paraplegia: (*a*) from Multiple Myelomatosis; (*b*) from Hemangioma of a Vertebral Body Treated by Radiotherapy. Gwen Hilton.—p. 400.
Some Defects in Radium Needles: Their Detection and Some Consequences. H. D. Griffith.—p. 404.

**Measurements of Distribution of Gamma Radiation.**—Wilson and Myers aimed (1) to measure directly in human tissue the intensity at various depths due to the radiations from a 2 Gm. unit and to compare and contrast the results with those obtained by measurements in a water phantom; (2) to determine whether bone possesses any features which modify the measurements in a manner not obtaining in soft parts, and (3) to collect some data concerning "back-scatter" at the surface of the skin. The results of their study indicate that measurements of the gamma radiation from a teleradium unit made at a point within a water phantom give an accurate measure of the dose received at a corresponding point within the human body, provided it is situated within an extensive amount of tissue that contains no air spaces. The types of tissue that are concerned make no difference to the result. When, however, regions near the boundaries of tissues have to be considered, it appears that readings made within the more extensive water phantom may differ considerably from the true values. Thus, for a true measurement in such regions it is necessary, as Bruzau has pointed out, to use a volume of water (or other phantom material) equivalent to that part of the body undergoing irradiation. The removal of the bone of the skull apparently brings about an increase in the depth dose within the skull of about 12 to 13 per cent, an amount that is not in itself sufficient to justify the removal of the bone as a preliminary to irradiation, though of some value if applied to cases in which a preliminary decompression is performed for therapeutic reasons or as a step in the exploration of the tumor.

### British Medical Journal, London

**1:** 1143-1190 (June 6) 1936

Treatment of Gastric and Duodenal Ulcer. H. L. Tidy.—p. 1143.
Inflammation: Hunter's Views and Modern Conceptions. G. L. Cheatle.—p. 1148.
Urinary Tract Complications in Prolonged Immobilization of Children. L. A. Key.—p. 1150.
Possible Reservoir Host of Trypanosoma Rhodesiense. W. A. Lamborn and C. H. Howat.—p. 1153.
*Association of Bacillus Coli Infection and Rheumatoid Arthritis. G. Slot and P. M. Deville.—p. 1155.
Histidine Treatment of Peptic Ulcer. A. Wingfield.—p. 1156.

**1:** 1191-1238 (June 13) 1936

Treatment of Tetanus. L. Cole.—p. 1191.
Cavernous Sinus Thrombosis: Study of Cases of Recovery. J. B. Cavenagh.—p. 1195.
Gastritis in Theory and Practice. S. J. Hartfall.—p. 1200.
Observations on Intubation Treatment of Peptic Ulcers. W. C. D. Maile.—p. 1204.
Third Generation Syphilis. A. Elliott.—p. 1206.

**Bacillus Coli Infection and Rheumatoid Arthritis.**—Slot and Deville observed that in nine of their twenty-four cases of rheumatoid arthritis there was an unsuspected bacilluria. Bacillus coli was the organism isolated in eight cases, and a streptococcus was present in one. None of these patients, except the one harboring streptococci, complained of any urinary symptoms and the usual routine ward examination of the urine revealed no abnormality. It was only when catheter specimens were taken that the bacilluria was discovered. As the administration of alkalis is generally an early form of therapy, it is possible that the presence of bacilluria is more frequent than is thought. The rôle of the intestine in rheumatoid arthritis must be reviewed carefully, in view of the possibility that Bacillus coli infection may have an intestinal origin. A careful bacteriologic examination of the feces was made in all the authors' cases, but no abnormal flora was discovered. All the patients were females, and the arthritis in all cases was confirmed not only clinically but also by roentgen examination.

### Glasgow Medical Journal

**7:** 257-304 (June) 1936

Observations on Renal Function Tests in Childhood. J. H. Hutchison.—p. 257.
Early Stages of Tobacco Amblyopia. W. J. B. Riddell.—p. 268.

### Indian Medical Gazette, Calcutta

**71:** 245-308 (May) 1936

Immunologic Methods in Determination of Infection in Random Sample of Hospital Admissions: Part I. C. L. Pasricha, G. Panja and S. Lal.—p. 245.
*Tuberculosis in Some Rare Situations, Namely Tonsils and Uterus. K. G. Krishnaswamy, A. N. Goyle and A. Vasudevan.—p. 254.
Pneumonia in Tea Garden in Assam: Notes. R. Bhattacharyya.—p. 259.
Rhinomeningorrhea: Case. N. Gupta.—p. 264.
More on Hill Malaria. C. Strickland and H. P. Chaudhuri.—p. 267.
Velocity, Silt and Larval Drift. D. Manson.—p. 270.

**Tuberculosis of Tonsils and Uterus.**—In 2,477 cases in which tonsillectomy was performed, Krishnaswamy and his associates found histologic evidence of tuberculosis in fifteen cases. The disease is definitely much more frequent in females than in males after 15 years of age. The maximal incidence is between the ages of 16 and 20. The youngest patient was 5 years and the oldest 26 years of age. The tuberculous process begins in the form of one or two discrete tubercles beneath the surface epithelium and crypts. These gradually enlarge, become confluent and extend into the substance of the tonsil until a great part of it is replaced by tuberculous tissue. Ulceration does not occur. Proliferation of the reticular cells and fibroblasts was pronounced. The ultimate tendency of the tuberculous lesions in the tonsils is toward recovery. Tuberculous infection may spread to the peritonsillar tissues, causing peritonsillitis, which was clearly seen in one case. Tuberculosis of the uterus is most common in adults; the average age incidence in the authors' eight cases was 28. The most common symptom was leukorrhea, even though some of the patients complained of amenorrhea and others of vaginal bleeding. The duration of the symptoms varied from a period of five months to six years. There was histologic evidence of tuberculous cervicitis in all cases except one. The preoperative diagnosis in most cases was that of malignant disease, showing that histologic examination of the affected tissue is of particular importance in the correct diagnosis of uterine tuberculosis, since there are no definite clinical signs or symptoms pathognomonic of this disease. In three cases there was no evidence of any other focus of tuberculosis apart from the cervix, and the possibility of primary tuberculosis of this tissue is to be considered. The endometrium was not affected at all and the myometrium showed miliary tubercles in close relation to the blood vessels, suggesting a hematogenic spread. Histologically, in early cases the tubercle follicles are situated beneath the surface epithelium in the stroma between the glandular acini. These gradually coalesce, undergo caseation and cause ulceration of the surface epithelium. A rare interstitial type has been described in which there is a diffuse enlargement of the cervix with intact surface epithelium (Frank). There was one case of this type. It has been noted by some authors, particularly by von Franqué, that in tuberculosis of the cervical mucosa there is stratification of glandular epithelium and obliteration of the lumen of the acini. This has not been observed in the present cases.

## Journal of Laryngology and Otology, London

**51:** 281-352 (May) 1936

Extirpation of Esophagus for Carcinoma. A. T. Edwards and E. S. Lee.—p. 281.
Misplaced Wisdom Teeth and the Otorhinolaryngologist. C. B. Henry.—p. 293.

**51:** 353-424 (June) 1936

Discovery of Caloric Nystagmus. A. Rejtö.—p. 353.
*Experimental Investigation of Tinnitus. W. J. McNally, E. A. Stuart, T. F. Reid and L. H. McConnell.—p. 363.
Some Points in Technic of Fronto-Ethmoidal Operation. W. Howarth.—p. 387.

**Experimental Investigation of Tinnitus.**—McNally and his associates carried out experiments in a series of nineteen patients suffering from tinnitus; the ages of the patients varied from 19 to 52 years; the duration of the tinnitus varied from a few months to about thirty years. Some of the youngest patients or ones who have had the tinnitus for a very short time did not show as much improvement from the various procedures as did older patients or the ones who have had the tinnitus longer. Both ephedrine and a preparation containing the alkaloids of belladonna caused improvement in the tinnitus in a greater percentage of cases when given by mouth than when given hypodermically. Since the hypodermic method of administration was the more accurately controlled, its results are probably more reliable. Stimulation of the sympathetic or depression of the parasympathetic nervous system by drugs, whether carried out separately or simultaneously, had a slightly more beneficial effect on the tinnitus than did depression of the sympathetic or stimulation of the parasympathetic nervous system. Yet the operation of stellate ganglionectomy (depression or elimination of the sympathetic) caused an improvement in the tinnitus in three of four cases. The procedures carried out, with the exception of the sodium-free diet, were directed toward alteration of the cerebral circulation or cerebral pressure. It is most likely that the cerebral circulation was affected because the drugs used produced their full physiologic effect, and most of these drugs have been shown by other experimenters to have a definite effect on the cerebral vascular mechanism. In spite of an undoubted alteration of cerebral circulation, the tinnitus in the majority of the cases was unaffected by the procedures employed.

## Journal of Pathology and Bacteriology, Edinburgh

**42:** 541-716 (May) 1936

Leuko-Erythroblastic Anemia. Janet M. Vaughan.—p. 541.
Study of Pathology of Nephritis in Infancy and Childhood. Katharine J. Guthrie.—p. 565.
Further Studies on Streptobacillus Moniliformis and Its Symbiont. Emmy Klieneberger.—p. 587.
Association of Chromaffin Tumors with Neurofibromatosis. D. B. Rosenthal and R. A. Willis.—p. 599.
*Bacillus Coli in Drinking Water of Ships: Effect of Storage. H. M. R. Jones.—p. 605.
Monocytic Leukemia with Myeloid Hyperplasia and Localized Tumor Formation. A. C. P. Campbell, J. L. Henderson and J. H. Croom.—p. 617.
Different Forms of Corynebacterium Diphtheriae and Their Significance. W. Mair.—p. 635.
Cerebellar Hemangioblastoma: Case. J. Gough.—p. 647.
Angioblastoma of Spleen with Metastases in Liver. S. De Navasquez.—p. 651.
Multiple Arteriosclerotic Aneurysms of Circle of Willis. F. T. Thorpe and J. L. Clegg.—p. 657.
Chronic Renal Destruction and Parathyroid Hyperplasia. H. A. Magnus and R. B. Scott.—p. 665.
*Actinomycosis of Ovary: Report of Four Cases. F. H. Côté and G. R. Tudhope.—p. 673.
Growing Pneumococcus with View to Production of Cultures of Standard Maximal Density, Virulence and Polysaccharide Content. R. A. Q. O'Meara and Annie M. Brown.—p. 679.
Differential Cell Counts of Pituitary Gland in Hypertension and Endocrine Disturbances. F. Hawking.—p. 689.

**Effect of Storage on Drinking Water of Ships.**—Jones investigated the changes in the Bacillus coli content of fresh water which occur during storage in ships' tanks under normal conditions at sea. Four experiments were performed over a period of fifteen months, the same tank being used for each, and from these the following conclusions are drawn: 1. Bacillus coli dies out during storage, and no evidence of any increase, either temporary or permanent, was found. 2. If Bacillus coli is found in samples of water taken from ships' tanks, it can be assumed (provided the tank itself is not contaminated) that these germs have not grown there and that the water contained a higher number of Bacillus coli when it was taken into the tank. 3. The rate at which water becomes free from Bacillus coli depends on the temperature to which the tank is subjected, being rapid in the tropics and much slower on voyages through cooler seas. 4. Whether or not the storage tank has been recently cleaned and "cement-washed" inside does not appear to affect the rate of purification of the water, at any rate up to a period of fifteen months.

**Actinomycosis of Ovary.**—Côté and Tudhope have observed four cases of actinomycosis of the ovary within the last twelve years. The ages of the patients ranged from 27 to 45 years. The total duration of the illness in cases 2, 4 and 1 was five, nine and twelve months, respectively; in case 3 it was four years and three months, but this includes a preliminary period of three years of rather vague attacks of abdominal pain at infrequent intervals. In cases 2 and 4 there had been an operation for "appendicitis" three months prior to their coming under observation for pelvic trouble, and in case 1 the appendix was embedded in a mass of dense adhesions anchoring the cecum to the floor of the pouch of Douglas. It is also highly significant that in all four cases it was the right ovary, with or without the corresponding fallopian tube, which was first affected. In cases 2 and 4 only the right ovary was removed. In case 3 the right tube and supposed ovary were first excised but were not examined microscopically; nine months later a "cyst" of the right broad ligament was removed and proved to be an actinomycotic ovary. In case 1 a right "tubo-ovarian abscess" was excised at the first operation but was not examined microscopically. Three months later the left tube and ovary were removed and the actinomycotic nature of the lesion was demonstrated microscopically. It is reasonable to assume that in these cases the right tube and ovary were affected by direct extension from the appendix. All four patients died of the disease in spite of the surgical measure adopted, and in cases 2 and 3 there was extension finally to the lungs and pleurae. Actinomycosis of the ovary reproduces with great fidelity the characteristic honeycombed appearance of the lesion as ordinarily encountered in the liver and kidney. Typical colonies of the ray fungus were present in the suppurating centers of the granulomatous nodules, and in one case an anaerobic streptothrix was recovered in cultures from the empyema that developed subsequently.

## Journal of Physiology, London

**86:** 337-452 (May 4) 1936

"Lipotropic" Effect of Dietary Protein. C. H. Best, Rhoda Grant and Jessie H. Ridout.—p. 337.
Effects of Cholesterol and Choline on Liver Fat. C. H. Best and Jessie H. Ridout.—p. 343.
Release of Acetylcholine at Voluntary Motor Nerve Endings. H. H. Dale, W. Feldberg and M. Vogt.—p. 353.
Constrictor Response of Inferior Vena Cava to Stimulation of Splanchnic Nerve. K. J. Franklin and A. D. McLachlin.—p. 381.
Stream Lines in Abdominal Vena Cava. K. J. Franklin and A. D. McLachlin.—p. 386.
*Chlorophyll and Hemoglobin Regeneration After Hemorrhage. J. H. Hughes and A. L. Latner.—p. 388.
Observations on Nerves of Supply to Bladder and Urethra of the Cat: Study of Their Action Potentials. J. P. Evans.—p. 396.
Maintenance of Pregnancy in Hypophysectomized Rabbit with Progestin. J. M. Robson.—p. 415.
Response to Drugs of Gut Muscle in Asphyxia and in Iodoacetic Acid Poisoning. B. N. Prasad.—p. 425.
Liberation of Histamine by the Heart Muscle. G. V. Anrep, G. S. Barsoum and M. Talaat.—p. 431.

**Chlorophyll and Hemoglobin Regeneration After Hemorrhage.**—Hughes and Latner found that rabbits are capable of converting chlorophyll to hemoglobin, if the former is given in small doses. The failure of large doses to produce any effect is very remarkable. It seems that chlorophyll in large doses is toxic to the bone marrow. This may be due to increased absorption of magnesium either in combination with chlorophyll or brought about in a manner similar to that in which the absorption of iron is increased on administration of bile pigments. The fact that large doses of the magnesium-

free chlorophyll derivative aid regeneration when administered by mouth seems to bear out this suggestion. It is a distinct possibility that the chlorophyll is acting as a physiologic stimulant of the bone marrow and is not really concerned with the actual chemistry of regeneration of the porphyrin grouping. This possibility is now being investigated. In the case of the crude chlorophyll, large doses exert a favorable effect on hemoglobin regeneration. It seems, therefore, that there is some substance in the crude chlorophyll which counteracts the toxic effect of the chlorophyll itself. The part played by intestinal bacteria might possibly be of some significance. Chlorophyll is known to be broken down by these bacteria, and it is quite likely that it is one of the breakdown products which is used for the subsequent synthesis of hemoglobin. This possibility is borne out by the failure of subcutaneous injections of the chlorophyll-free derivative to produce any effect.

## Journal of State Medicine, London

**44:** 249-310 (May) 1936

The Health of the Married Woman. A. Goodwin.—p. 249.
Women in Industry. Winifred Cullis.—p. 260.
Psychologic Influences on the Circulation. J. F. H. Dally.—p. 265.
Arthritis in Women. R. F. Fox.—p. 275.

**44:** 311-372 (June) 1936

What Are Foes of Industrial Hygiene and How Can They Be Met? T. Oliver.—p. 323.
Sociological and Medical Aspects of Induction of Abortion. Louise McIlroy.—p. 332.
Infectivity of Tuberculosis. L. S. T. Burrell.—p. 345.
Rheumatism and Allied Diseases: Introductory Review. F. J. Poynton.—p. 349.
Some Effects of Emancipation on the Health of Women. G. W. Theobald.—p. 359.

## Journal of Tropical Medicine and Hygiene, London

**39:** 113-124 (May 15) 1936

Some Cases Which Illustrate Favorable Influence of Tropics on Course and Treatment of Subacute Bacterial Endocarditis. H. O. Gunewardene.—p. 113.
Studies of Suprarenal Glands of Dogs: II. Study of Influence of Parasites on Weights of Suprarenal Glands of Dogs. D. D. Baker and E. H. Hinman.—p. 117.

## Lancet, London

**1:** 1223-1278 (May 30) 1936

Late Results in Operative Treatment of Intracranial Tumors. H. Cairns.—p. 1223.
*Diagnosis of Carcinoma of Cervix in Very Early Stage. W. Schiller.—p. 1228.
Observations on Castle's Intrinsic Factor in Pernicious Anemia. C. C. Ungley and technical assistant, R. Moffett.—p. 1232.
Modern Technic in Bronchography. G. S. Erwin.—p. 1236.

**Early Diagnosis of Carcinoma of Cervix.**—Schiller warns that the aqueous iodine test is not specific for carcinoma but marks off only the areas that do not contain glycogen. Glycogen is always absent in cancer, but not only in cancer. It is absent also in carcinomatous transformation of epithelium, hyperkeratosis of the squamous epithelium of the cervix, keratinization developing in prolapse, which may also cause the glycogen to disappear, and when the superficial layers of glycogen containing epithelium have been rubbed off by inflammation, maceration or the examining finger or speculum. Thus there are different possibilities which cause the epithelium of the surface to remain white. The method of iodine painting is easily carried out in an outpatient department, requiring no special training for the doctor and causing the patient no pain. A further field of application for iodine painting is in the revelation of cancerous marginal zones of progressed carcinomas. The method can be applied without difficulty, but it has its full value only when carried out on as many patients as possible. The author has seen patients 25 or 26 years of age with smooth, homogeneous shining white portios that seemed altogether above suspicion to the eye of the clinician but when painted with iodine showed a small white speck, which proved to be a carcinoma when scraped off. The gynecologist who paints only the suggestive cases is sure to miss the most important stage—the smallest, clinically latent cancer. The more general the examination by iodine painting, the smaller will be the proportion of positive cases. In the author's last series, about twenty of every hundred women examined in the outpatient department showed suspicious areas, and of these twenty only one or two proved to be cancers at histologic examination of the scrapings. But even if only 1 per cent of the examined women give a positive diagnosis, the result is still exceedingly satisfactory, for carcinoma when detected and treated at that early stage gives nearly 100 per cent security for definite permanent healing. If it were possible by this procedure to examine systematically at intervals of a few months as large a number of women as possible, a predominant proportion of cervical cancers might be obtained for treatment at such stages as would fully guarantee permanent healing. Thus it would be possible to lower greatly the mortality of this disease.

## Medical Journal of Australia, Sydney

**1:** 697-732 (May 23) 1936

Approach to Interpretation and to Treatment of Psychoneuroses and Psychoses. C. I. McLaren.—p. 697.
Sterilization of the Unfit. P. G. Dane.—p. 707.
Further Contribution to Study of Heredity of Blood Groups in Australian Families. Eva A. Shipton.—p. 712.

**1:** 733-770 (May 30) 1936

*Critical Survey of Some References to Syphilis and Yaws Among Australian Aborigines. C. J. Hackett.—p. 733.
The Problem of Child Guidance: Adaptability and Delinquency. D. M. Embelton.—p. 745.

**Syphilis and Yaws Among Australian Aborigines.**—Hackett gives a critical survey of some references to venereal disease and syphilis in Australian aborigines and suggests that, if granuloma pudendi is excluded, in most cases the disease referred to is yaws. Among the aborigines of the Northern Territory of Australia today syphilis is unknown, while yaws is frequent. In museums in Australia there are aboriginal bones from the southern and eastern areas which show yaws lesions. It is probably correct to conclude that, when Australia was discovered by Europeans, yaws was present in all native communities and that, as long as they were leading lives not completely divorced from their bush fashion, they still suffered from yaws and not from syphilis. This confirms the suggestion that the descriptions of venereal disease and syphilis were of yaws. That the disease known to the Aranda tribe as irkintja is yaws indicates that that disease has been endemic in central Australia for a long time.

## Medical Press and Circular, London

**192:** 539-560 (June 17) 1936

Synthesis of New Radioactive Elements. Madame Joliot-Curie.—p. 542.
Acromegaly. F. R. B. Atkinson.—p. 543.
*What Is a Cold? H. Merrall.—p. 550.
Catering at a Spa from the Practical Man's Point of View. M. Chance.—p. 554.

**What Is a Cold?**—Merrall declares that a cold is the visible manifestation of conflict between microbes and lymphocytes of more vigorous degree. Every microbe which obtains a foothold in the throat or nose stimulates the defenses into more vigorous action and will produce the catarrh, swelling of the mucous membranes and increased irritability, with sneezing and coughing; for these are the actual consequences of the increased production of lymphocytes and mucus. The exanthems are all of them attended by catarrh, the main feature of a cold. The condition which brings about this degree of reaction is the lessened bodily resistance to microbic attacks that is occasioned by a loss of bodily heat. A cold is the manifestation of the conflict between microbes and lymphocytes, which is a normal condition of life, exaggerated in severity when the invading microbes have overcome the first line of defense through the weakening of these outposts, which supervenes on a sudden loss of heat. The actual cause of this cooling of the body is evaporation. The usual way in which a cold is caught is by sitting in wet garments, particularly wet shoes and stockings. Evaporation is greatly expedited in a draft. The air cannot be too cold to breathe as long as we are protected from loss of body heat. In the course of passage from the open air to the nasopharynx, the inhaled air is raised to blood heat. While it is both healthy and safe to sleep in a draft when in bed, it is highly dangerous to sit in a draft unless one is protected by an overcoat, such as would be worn when sitting or riding in an open vehicle in the open air.

## South African Medical Journal, Cape Town

**10:** 315-346 (May 9) 1936

The Medicosocial Aspects of Population Density. P. W. Laidler.—p. 317.
Preventive Medicine and Public Welfare. J. H. Rauch.—p. 327.

**10:** 347-390 (May 23) 1936

Hospital Problems. J. Barrett.—p. 349.
Medical Influences of Hospitals on East Coast of Africa. C. F. v. d. Merwe.—p. 357.
Recent Views on Endoscopic Diagnosis and Treatment of Pulmonary Diseases. C. E. Jones-Phillipson.—p. 360.

## Tubercle, London

**17:** 385-432 (June) 1936

*Risk of Silicosis in Sandblasters. E. R. A. Merewether.—p. 385.
Concentration and Culture Methods in Examination of Sputum for Bacillus Tuberculosis. P. Edwards, A. Lynn and L. J. Cutbill.—p. 391.
Cineradiography of Chest. R. J. Reynolds.—p. 396.
Technic and Interpretation of Chest Radiogram. K. Dunham.—p. 406.

**Risk of Silicosis in Sandblasters.**—In the case of chambers using sand as the abrasive, Merewether gives the following as the main sources of risk: (1) the atmosphere inside the chamber is invariably dangerous during blasting and for a period afterward, (2) the atmosphere inside the helmet, breathed by the worker, is invariably dangerous during blasting in the absence of an adequate positive fresh air supply and (3) the air in the workroom in which the sandblasting chamber is situated may also be dangerous, owing to leakages from the chamber and from various parts of the accessory plant and from opening the door before the dust has been removed by the fan. While it may be possible with special equipment, precautions and constant supervision to make sandblasting safe for the time, a breakdown in one direction or another is more liable to occur than in many of the dangerpus trades, and the results of such a breakdown, even if only of a temporary nature, are most serious. Owners of sandblasting factories have many fresh problems daily; sandblasters are often piece workers and therefore are less careful; the sandblasting equipment has to stand up to very hard usage, and thus, without any real negligence, the general conditions under which sandblasters work become such as to result in a serious health hazard.

## Chinese Medical Journal, Peiping

**50:** 201-296 (March) 1936

Decompression of Gastro-Intestinal Tract: II. Application of Principles of Mechanical Decompression to Treatment of Various Surgical Conditions of Abdomen. H. C. Fang and H. H. Loucks.—p. 201.
Paroxysmal Hemoglobinuria: Report of Case in a Chinese. C. H. Huang and R. H. P. Sia.—p. 214.

## Japanese Journal of Experimental Medicine, Tokyo

**14:** 85-196 (April 20) 1936

Demonstration of Paschen Corpuscles in Brain and Testicle by Method of Overstaining. K. Kanazawa.—p. 85.
Promoting Action of Antiricin-Serum on Hemo-Agglutination Due to Ricin. H. Moriyama.—p. 87.
Experimental Diphtheria Paralysis: Further Report. E. Ozawa.—p. 105.
Observations on Transmission of Antitoxin to Eggs and Chicks of Chickens Immunized with Purified Diphtheria Anatoxin. E. Ozawa.—p. 115.
Immunologic Studies of Snake Venoms. K. Akatsuka.—p. 147.
Virus Isolated in 1935 Epidemic of Summer Encephalitis of Japan. T. Taniguchi, M. Hosokawa and S. Kuga, in cooperation with T. Wada, T. Horimi and S. Hashida.—p. 185.

## Japanese Journal of Obstetrics & Gynecology, Kyoto

**19:** 175-326 (May) 1936

Study on Effects Caused by Each Organ's Pressed Juice, on Respective Organ, Administered Extra-Orally: Parts I, II, III and IV. Histologic Changes in Kidney, Heart, Liver and Spleen Due to Hypodermic Injections of Each Pressed Juice of Kidney, Liver, Spleen, Testes and Heart. T. W. Yun.—p. 176.
Id.: Part V. Observations on Functional Conditions of Rabbit's Heart and Uterus, with Pressed Juice Injections of Heart and Uterus: Discussion on Parts I, II, III and IV and Summary for All Parts. T. W. Yun.—p. 239.
Experimental Study of Metastasis of Malignant Tumor. S. Okamoto.—p. 273.

## Annales de l'Institut Pasteur, Paris

**56:** 609-728 (June) 1936. Partial Index

*Antituberculous Immunizing Power of Tubercle Bacilli of Smooth Colonies. L. Nègre, J. Valtis and J. Bretey.—p. 609.
Bang's Disease in Man in Yugoslavia. T. V. Simitch and M. Djourichitch.—p. 620.
Staining of Bacterial Cilia by Simple Method. S. Levenson.—p. 634.
Comparative Sulfur and Phosphorus Content of Plants Cultivated on Same Soil. G. Bertrand and L. Silberstein.—p. 644.
Immunization Against Diphtheria by Single Injection of Precipitated Anatoxin. Bronislava Palant, Anna Gordine and M. Mitelman.—p. 648.
Attempt at Antipneumococcus Immunization by Inhalation. J. P. Exchaquet.—p. 668.

**Immunizing Power of Smooth Colony Tubercle Bacilli.**—Nègre and his collaborators inoculated guinea-pigs and rabbits subcutaneously or intravenously with tubercle bacilli from smooth colonies isolated by the acetone extract method. The original organisms were obtained from human pathologic lesions or from guinea-pigs and transferred for several generations. The injections produced in these animals a benign infection, the histologic manifestations of which were transitory but seemed to be prolonged by the persistent presence of bacilli in the animals. Following these injections the guinea-pigs and rabbits presented a definite resistance to infection with virulent organisms. This resistance was more marked after inoculation with the smooth variety than with the rough avirulent variety from the same strain of bacilli. The more marked immunizing action of the smooth strain perhaps depends on its special chemical composition, since its content of lipids is higher than that of the corresponding rough varieties. Whatever the origin or character of the strains used and whether they return or not to the virulent rough variety, all the smooth strains studied showed feeble variations but the same immunizing power against tuberculous infection with virulent organisms of either human or bovine type. These properties seem to remain intact after several years of cultivation of the smooth strains on artificial mediums. After heating for one hour at 70 C., the bacilli of the smooth colonies, like those of the rough colonies, appear to lose the greater part of their immunizing power.

## Bruxelles-Médical, Brussels

**16:** 1273-1303 (June 21) 1936

*Aerophagia in Ptosis. H. Gaehlinger.—p. 1273.
Syringomyelia and Work Accident. A. Bodart.—p. 1278.
Pregnancy Edema Complicated by Generalized Fetal Edema. M. Brouha.—p. 1283.
Hepatic Extracts and Gold Therapy. De Luna.—p. 1285.

**Aerophagia in Ptosis.**—Gaehlinger believes that the theory of Jacquet most nearly explains the presence of air swallowing in ptosis. This theory involves the conception that most patients with ptosis are dyspeptic and that this gives rise to gastric malaise, which causes the deglutition of air. The facts that the symptom subsides with the patient in the lying position, that it is temporarily cured by diet and, finally, that the wearing of a support can cause the disappearance of aerophagia in reducible ptosis lend support to this theory. The author carries this theory further and believes that aerophagia in ptosis is the consequence of insufficient pressure exerted by the abdominal muscles on the gastro-intestinal mass. It is hence partly due to the result of poor physiologic absorption of the gas, partly to disorder of the hepatic circulation and partly to insufficiency of the interior tonus.

## Chirurgia degli Organi di Movimento, Bologna

**22:** 1-84 (May) 1936. Partial Index

Importance of Vessels of Round Ligament in Process of Development of Head of Femur. C. Cella.—p. 1.
Congenital Abnormalities of Development of Menisci of Knee Joint. G. Filippi.—p. 13.
Technic and Applications of Salaghi's Electric Thermophore. M. Salaghi.—p. 34.
Congenital Malformations of Vertebral Column: Vertebral Synostosis and Kyphosis. C. Schapira.—p. 39.
*Isolated Fracture of Greater Trochanter. O. Betto.—p. 58.
Synovial Chondromatosis: Case. P. C. Borsotti.—p. 63.

**Isolated Fracture of Greater Trochanter.**—Betto states that isolated fractures of the greater trochanter are rare. They are the result of direct trauma and violent contraction of the muscles during trauma. Osteoporosis is a secondary factor. The

diagnosis is difficult. Palpation cannot be performed because of the presence of edema and intense pain. The position of the limb is characteristic. There is adduction of the thigh, internal rotation of the leg in such a manner that the patella touches the internal aspect of the opposite knee, moderate flexion of the leg on the thigh and slight deviation of the pelvis to the normal side. The differential diagnosis is made with articular lesions and with fracture of the neck of the femur. The diagnosis is made by the roentgen examination of the femur, which shows the type of fracture and intensity of displacement of the fractured segment of the process. The prognosis with regard to function of the limb depends on the type of fracture and the intensity of the displacement, which depends in turn on the direction and retractile force of the muscles. The treatment consists in rest with the leg in external rotation and forced abduction for about one month, if the fracture is incomplete and the fractured segment remains in place or is slightly displaced. Surgical treatment is indicated only in cases of grave complete fracture with great displacement in young patients. A case is reported.

## Haematologica, Archivio, Pavia

**17:** 393-492 (No. 5) 1936

Splenomegalic Erythremic Myelosis with Myeloid Aplasia. E. Storti. —p. 393.
Hematopoietic Response to Necturus Maculosus to Intraperitoneal Injections of Liver Extract, of Alpha Dinitrophenol and of Liver Extract Together with Alpha Dinitrophenol. J. H. Phillips.—p. 461.
*Influence of Vitamin C on Coagulation of Blood. L. Cotti.—p. 483.

**Influence of Vitamin C on Coagulation of Blood.**—Cotti found in previous work that intravenously administered vitamin C (from 50 to 100 mg. daily for from five to eight days) produces variations of the time of coagulation which are related to variations of the coagulation ferments. To ascertain the rôle of the coagulation ferments, the author made determinations of the time of coagulation and of the amount of thrombin, fibrinogen and antithrombin in the blood of eleven persons, including normal persons and persons suffering from hemorrhagic and nonhemorrhagic diseases, before and after an intravenous injection of from 100 to 200 mg. of vitamin C. The time of coagulation was prolonged in the four cases in which the amount of thrombin decreased, it was shortened in the four cases in which the amount of thrombin increased, and it did not change in the three cases in which the amount of thrombin did not change. Fibrinogen and antithrombin did not change. The results obtained point out the relations between thrombin and coagulation and the fact that vitamin C promotes the activity of thrombin when it is diminished and inhibits it when it is normal. The last statement is proved by the variations of the coagulation time that follow the intravenous injection of vitamin C in persons with hemorrhagic diatheses, including hemophilia, and in certain normal persons. The coagulation time is shortened after the injection of vitamin C in all cases of hemorrhagic diathesis, while it is prolonged in certain normal persons. On the basis of the results of the studies of Kühnau and Morgenstern on coagulation "in vitro" and of his own results of the study of coagulation in living persons, the author states that coagulation takes place through certain phenomena of oxidoreduction of substances in the blood and that the mechanism of action of vitamin C on coagulation is due to the reducing properties of vitamin C.

## Prensa Médica Argentina, Buenos Aires

**23:** 1571-1624 (July 1) 1936

Dosimetry of Roentgen Rays at the Present Time. E. Lanari and F. Vierheller.—p. 1573.
Psychoanalysis, a Task of Licensed Practitioners. J. R. Beltran.—p. 1580.
*Pneumoperitoneum in Treatment of Intestinal and Pulmonary Tuberculosis. A. J. Rey, J. C. Rey and A. Garcia de Loydi.—p. 1583.
Diseases of Humors: Cases. J. Moreno.—p. 1591.
Primary Tuberculous Infiltration of Skin in Children: Skin Port of Entry of Tuberculosis. A. A. Magalhaes.—p. 1600.
Symphysiotomy in Labor with Retained Head: Case. J. Monjo.—p. 1613.

**Pneumoperitoneum in Treatment of Intestinal Tuberculosis.**—Rey and his collaborators report satisfactory results from pneumoperitoneum in fifteen cases of intestinal tuberculosis secondary to pulmonary tuberculosis. The authors conclude that the technic of pneumoperitoneum is easy. It is advisable to perform the operation early in the development of intestinal tuberculosis, as soon as the complication is suspected. The operation is not contraindicated in patients in whom unilateral or bilateral pneumothorax has been previously performed. Pneumoperitoneum acts as a coadjuvant treatment to phrenicectomy by intensifying and strengthening the effects of phrenicectomy. Pneumoperitoneum results in rapid relief of diarrhea, pain, fever and the symptoms of gastric dyspepsia until complete disappearance. The patients regain a restful sleep and a feeling of euphoria. The satisfactory results of pneumoperitoneum as a symptomatic treatment are obvious. The value of the operation in producing complete recovery of the patients will be evaluated in time, after a more prolonged observation of the patients who, up to the present, can be considered as recently treated.

## Revista de Medicina y Cirurgía de la Habana, Havana

**41:** 345-416 (June 30) 1936

Medicolegal Identification of Sex (in Living Persons). R. de Castro and Bachiller.—p. 345.
Tuberculoid Leprosy: Case. J. Grau Triana, F. León and G. González Peris.—p. 359.
*Rapid Method for Identification of Diphtheria Bacilli, Also New Method for Identification of Carriers. R. Silveira.—p. 372.
Instrument for Performance of Subcutaneous or Intravenous Injections of Serums and Also for Transfusion. R. Cowley Campodónico. —p. 377.
Typhoid: General Study. G. González.—p. 380.

**Identification of Diphtheria Bacilli.**—A rapid method for identification of diphtheria bacilli and detection of carriers, as described by Brahdy and his collaborators, was published in THE JOURNAL, May 25, 1935, page 1881. The method consists in the use of horse serum instead of Löffler blood serum slant method in the preparation of nose and throat cultures for identification of diphtheria bacilli, and in the intracutaneous test in guinea-pigs after inoculation of a four-hour rapid culture, transplanted to a Löffler slant and incubated for eighteen hours, for detection of carriers. Silveira made a comparison of both the routine Löffler and the Brahdy method. He confirms Brahdy's conclusions with regard to the simplicity of the technic, rapidity of results and value of the method. In Silveira's ten cases positive results in identifying diphtheria bacilli were obtained within two and four hours by Brahdy's method as against a period within sixteen and twenty-four hours, rarely twelve hours, by the routine Löffler method. When the Brahdy method gave negative results, the Löffler method also gave negative results. In detection of carriers positive results can be reported within twenty-four hours by Brahdy's method as against four or five days by the routine Löffler method. Also in this case negative results of one method coincide with negative results of the other.

## Deutsches Archiv für klinische Medizin, Berlin

**179:** 113-208 (June 11) 1936. Partial Index

Estimation of Bone Marrow on Basis of Sternal Puncture. N. Markoff. —p. 113.
*Studies on Pathogenesis of Obesity. G. Hetényi.—p. 134.
Compensating Enlargement of Cardiac Valves. P. Radnai and F. Ascher.—p. 142.
New Observations on Pelger's Familial Nuclear Anomaly. W. Zündel. —p. 151.
Clinical Estimation of Bone Marrow and Blood: Aspects of Bone Marrow in Agranulocytosis and Related Conditions. R. Stodtmeister. —p. 163.
*Some Peculiarities of Urine in Multiple Myeloma. A. Magnus-Levy. —p. 188.

**Pathogenesis of Obesity.**—Hetényi thinks that anomalies in the transport of fat, particularly in its mobilization, play a part in the pathogenesis of obesity. He investigated the mobilization of the fat depôts of the organism during insufficient food intake in obese and in normal persons and found that it is impaired. Then he studied the alimentary hyperlipemia in obese and normal persons and observed that the tissues of obese persons have a great avidity for fats that enter the blood stream. The alimentary hyperlipemia was considerably less in patients with obesity than in normal persons. The author studied the relation between fever and fat mobilization from the deposits, the action of dehydration on the blood fat and finally the resorption of the subcutaneously administered fat. He detected that the increase in the blood fat during the artificially produced

fever is slight in obese persons. The resorption of subcutaneously administered fat is much less in obese than in normal persons. The author concludes that all these experiments show that the mobilization from the fat depôts is reduced in obese persons, whereas their absorption capacity for the circulating fat is greatly increased; that is, obesity is a disorder of the fat mobilization. He concedes, however, that the problem of the pathogenesis of obesity has not yet been completely solved.

**Peculiarities of Urine in Multiple Myeloma.**—Magnus-Levy points out that it is characteristic for multiple myeloma that casts and epithelia may for a long time be completely absent from the urine, in spite of severe degrees of proteinuria. The kidneys may remain intact for a long time, but later they usually became involved and casts appear in the urine. Some of these casts differ from the usual forms. There were casts with coarse granules and of irregular shape. Another type of cast resembled the well known waxlike ones but were much lighter and more transparent. The author shows that, although these casts are of no importance for the diagnosis, they have a theoretical significance in that something can be learned about the nature of their protein, which is not possible in the ordinary types. Globulites, spherical bodies, which often appear in layers and the size of which exceeds that of leukocytes once or several times, were occasionally mentioned in earlier descriptions as constituents of the sediment but have been practically disregarded in recent years. Because of their low solubility they had never been chemically analyzed. It seemed likely that the spherical bodies would contain crystalline material. The author succeeded in proving their presence. In a considerable number of cases of multiple myeloma he observed a peculiar behavior of the Bence Jones protein during the process of heating. In spite of a sufficient acid reaction, a considerable portion of the Bence Jones protein remains undissolved during boiling over a flame. However, it does not precipitate like dust or in floccules, like ordinary protein, but is leathery, tough and sticky. Another portion of the sediment, which forms a foam when the boiling process is severe, is likewise sticky. Of the urines with high protein content, every fourth or fifth one shows this behavior. It represents the transition of a solid sediment into a more or less fluid one, a type of "melting." After describing further studies on this type of melting, the author discusses the requirements for the demonstration of Bence Jones protein. He mentions three points: the proper solution of the urine with solution of sodium chloride, the addition of sulfosalicylic acid and the slow heating.

## Deutsche medizinische Wochenschrift, Leipzig

**62:** 997-1036 (June 19) 1936. Partial Index

*Treatment of Acute and Chronic Osteomyelitis of Tubular Bones by Means of Cod Liver Oil and Plaster Cast. W. Löhr.—p. 997.
Sodium and Chloride Metabolism in Skin Diseases. H. Döllken.—p. 1004.
Action of Cod Liver Oil on Bacterial Mixtures, Particularly Soil Bacteria and Spore-Forming Organisms. Von Drigalski.—p. 1005.
Detachment of Retina. L. Heine.—p. 1008.
Deposition and Distribution of Gold After Administration of Inorganic and Organic Gold Preparations. Koppenhöfer.—p. 1011.
Roentgen Treatment of Chronic Tonsillitis. E. Otto.—p. 1012.

**Cod Liver Oil and Plaster Cast for Osteomyelitis.**—Löhr describes the technic of the cod liver oil and plaster cast treatment in acute osteomyelitis. The field of operation is rendered bloodless and an incision is made over the painful part of the bone. The periosteum is opened and the pus evacuated. The wound is filled with cod liver oil ointment, care being taken that it enters all corners. The wound is closed loosely, so that pus can escape readily. The filling with the mild ointment takes the place of rubber drains and tampons. The external wound is covered with a thick layer of ointment, and over this a plaster-of-paris cast is applied. As a rule, the cast is left in place for two or even three weeks, but in case of excessive secretion from the wound it may be removed earlier. At the removal of the plaster cast, the wound is usually more or less healed. Roentgenoscopies that are made during the following period often reveal sequestrums. However, sequestrotomy should not be done too hastily, because particularly in young persons, considerable restoration of the bone takes place. If, six or eight weeks after the beginning of the disease, sequestrotomy does become necessary, it should be done in a radical manner. The author discusses the use of cod liver oil and the plaster cast in cases of chronic osteomyelitis. In these cases the radical removal of the disease focus is of primary importance. The author says that in some cases he did not even hesitate to open the foot or knee joints. This procedure had no untoward effects. In summarizing the advantages of the cod liver oil and plaster cast treatment of osteomyelitis, the author stresses the painlessness, the fact that the frequent changes of dressings is done away with and the fact that the general condition of the patients is favorable. He cites a case which indicates that even desperate cases are amenable to this treatment.

## Deutsche Zeitschrift für Chirurgie, Berlin

**247:** 145-288 (June 22) 1936. Partial Index

*Question of Operative Treatment of Strawberry Gallbladder. F. Bernhard and E. Fenster.—p. 145.
Effect of Operative Trauma on Pulmonary Respiration, Capillary Gaseous Exchange and Circulating Blood Volume. E. Derra.—p. 187.
Torsion of Omentum. H. Knüpper.—p. 208.
*Hesse-Filatov Method of Treating Hemolytic Shock. L. Eljaševič.—p. 215.
Results of Resection in Gastric Cancer. H. B. Sprung.—p. 220.

**Question of Operative Treatment of Strawberry Gallbladder.**—Bernhard and Fenster say that during the period between 1906 and 1935 there were 443 cases of strawberry gallbladder in which operation was performed at the surgical clinic of the University of Giessen. Of these, 380 were in female and sixty-three in male patients. The age incidence was the same as that noted in cholelithiasis. Pain in the right upper quadrant and typical colics were the prominent symptoms in 380. In 100 patients, jaundice was either present or existed at some time. In 100 cases, stones were present. Their composition differed from that seen in cholelithiasis. In fourteen instances out of twenty-four, sugar tolerance tests gave abnormally high sugar curves before the operation. Diastase determination in twenty-nine patients before the operation demonstrated an increase in one fourth of the cases. They have observed cases with a normal blood sugar curve but with increased diastase or pancreatic lipase in the blood serum. The quinine-refractory liver lipase was frequently increased. In about half of the cases either the external or the inner pancreatic secretion was found to be disturbed. Tests of pancreatic function are therefore of value in the diagnosis of strawberry gallbladder. Differential diagnosis from cholelithiasis and stasis of biliary tracts is difficult. Of the 443 patients, eleven died following the operation and twenty-seven after leaving the clinic. Seventeen of the latter died of carcinoma. Two hundred and one patients replied to inquiries and 110 were reexamined. In 80 per cent of the follow-up cases, relief of complaints was complete, while in 10 per cent the operation was considered a failure. Subacidity and anacidity following the operation were observed with about the same frequency as after the operation for cholelithiasis. The frequent occurrence of alimentary glycosuria and the abnormal blood sugar curve, as well as the increase of the atoxyl-refractory blood lipase, point to the existence of a chronic pancreatitis, which the authors regard as the cause of postoperative complaints. Operative intervention, though justified, is not as urgent as in cholelithiasis. It is clearly indicated, however, in the presence of pain and colicky attacks. From present knowledge the strawberry gallbladder is to be regarded as an independent disease entity and in many cases as the forerunner of cholelithiasis.

**Treatment of Hemolytic Shock.**—Eljaševič reports three cases of hemolytic shock treated successfully by the Hesse-Filatov method. Symptoms of shock developed in the first case nine minutes after the infusion of 100 cc. of incompatible blood. The biologic test of Oehlecker was negative. In the second case a severe hemolytic shock developed in a person belonging to group A thirty minutes after transfusion of blood from a universal donor. The biologic test was likewise negative. In the third case, transfusion of a patient bleeding into the peritoneal cavity was done partly with her own hemolyzed blood removed from the peritoneal cavity. The symptoms developed forty-eight hours later and manifested themselves principally as those of a severe nephropathy. Transfusion with compatible blood, as recommended by Hesse and Filatov, resulted in prompt cure of the three patients.

## Klinische Wochenschrift, Berlin

15: 921-952 (June 27) 1936. Partial Index

Pernicious Anemia and Gastric Carcinoma, with Especial Consideration of Its Familial Occurrence. W. Thiele.—p. 921.
Technic of Cytologic Examination of Exudates and Secretions. G. Wihman.—p. 926.
Lymphopenia in Uremia. H. Reichel.—p. 926.
*Graphic Demonstration of Changes in Density of Cardiac Roentgenogram (Actinocardiogram) in Mitral Defects. K. Heckmann.—p. 928.
*New Method of Treatment in Thrombopenic Purpura. R. Klima.—p. 935.
Paroxysmal Cold Hemoglobinuria and Vitamin C. H. Lotze.—p. 941.
*Infection of Reticulocytes by Plasmodium Malariae. E. Jacobsthal.—p. 942.

**Actinocardiogram in Mitral Defects.**—Heckmann records the volume changes of the heart during pulsation by utilizing the changes in density on the roentgen screen for the direction of the current of a photo-electric cell. This current is intensified by a three-step low frequency amplifier and operates a mirror galvanometer, which in turn records a pulsation curve. The author designates this method as the actinocardiogram. In this report he describes curves that he obtained in patients with mitral defects. He found that in these patients the curve is characterized by a systolic increase in volume (inverse type) with subsequent steplike decrease, slight changes in volume, slight or missing diastolic increase in volume and deep auricular depression in the curve. He explains these manifestations by the enlargement of the left auricle, the fact that the systolic filling of the auricle is thus more pronounced (partial compensation for the ventricular reduction in size), the reduced inflow of blood into the left auricle during the diastole in mitral stenosis, the systolic backflow from the left ventricle into the left auricle, and finally the backflow of blood from the left auricle into the pulmonary veins.

**Treatment of Thrombopenic Purpura.**—Klima shows that none of the various treatments of thrombopenia have been entirely successful and that the most effective method, splenectomy, involves considerable danger. For this reason, efforts have been made to improve the internal methods of treatment. In the course of investigations on the action of epinephrine, the author found that the administration of kephrine hydrochloride (methylaminoacetocatechol hydrochloride) produced favorable results. He demonstrates the favorable therapeutic effects on the clinical histories of nine patients with thrombopenic purpura. He says that in injecting the substance the formation of hematomas can be avoided by giving the injection deeply on the fascia or, still better, intramuscularly. The substance is not given intravenously. However, it was found that it is also effective when given by mouth. For cases in which the hemorrhages are not severe, the author recommends the oral administration of 5 or 10 cc. of a 5 per cent solution of kephrine hydrochloride from three to six times each day. In cases of severe hemorrhage he gives deep subcutaneous or intramuscular injections of 2 cc. of a 0.5 per cent solution two or three times daily. Oral and injection therapy may be combined, if it seems desirable. The hemostyptic action becomes noticeable gradually in the course of twenty-four or forty-eight hours. After the desired result has been obtained, the dose is gradually decreased. In discussing the mechanism of the therapy, the author suggests that kephrine hydrochloride induces reparative processes on the vessels, which in turn effect an increase in the number of thrombocytes.

**Infection of Reticulocytes by Plasmodium Malariae.**—Jacobsthal found that a modification of Hirschfeld's simple method for the staining of reticulocytes (abstracted in THE JOURNAL, Nov. 23, 1935) is also suitable for the demonstration of malarial parasites. He, too, resorts to preliminary staining with Löffler's methylene blue (from two to five minutes). After careful rinsing with water there follows from five to fifteen minutes staining with diluted Giemsa solution, then rinsing with distilled water and air drying. The fixation following the Löffler staining can be done with saturated aqueous solution of mercury bichloride. In using this method of staining in the examination of malarial blood, the author found that, in a new malarial infection with Plasmodium vivax or falciparum, the reticulocytes are chiefly infected, not the mature erythrocytes. This selective infection goes to such an extent that from 90 to 98 per cent of the infected cells are reticulocytes. The fact that the parasites attack chiefly the young cells has considerable clinical importance. Since some of the infected cells are destroyed, the inadequate supply of young cells produces an anemia. Whereas the reticulum of the noninfected reticulocytes shows a grayish blue with this method of staining, the infected reticulocytes show a much looser reticulum that is reddish. The protoplasm of the infected reticulocytes likewise appears of a delicate rose shade, in contradistinction to the complete lack of stain in that of the normocytes. In reticulocytes, which contain gametes or dividing forms, the reticulum appears in a rather compact form at the edge of the cell. The author says that the best results are obtained with fresh specimens. In preparations that have been stored for two or three days, the staining of the reticulocytes is poor.

## Monatsschrift f. Geburtshülfe u. Gynäkologie, Berlin

102: 193-256 (June) 1936

*Treatment of Eclampsia with Thyroxine. F. Bonilla and F. Goebel.—p. 193.
Diagnosis and Therapy of Amenorrhea. R. A. Tschertok.—p. 202.
Question of Conservative Treatment or Surgery in Chronic Inflammation of Adnexa. Gerda Lindner.—p. 216.
Question of Advisability of Spinal Anesthesia in Obstetrics. O. Bittmann.—p. 223.

**Treatment of Eclampsia with Thyroxine.**—Bonilla and Goebel, after citing the reasons why thyroxine was introduced in the treatment of eclampsia, call attention to the contradictory results obtained by the various authors. These contradictions induced the authors to study the antagonism between the thyroid and the posterior lobe of the hypophysis in animals, in the hope of developing a foundation for the treatment of eclampsia with thyroid extract. They succeeded in producing in white mice, by the administration of solution of posterior pituitary, an intoxication which is characterized by collapse, convulsions and Cheyne-Stokes respiration. This intoxication could not be counteracted by thyroxine. Animals in which hyperthyroidism had been induced were extremely sensitive to solution of posterior pituitary. They died a short time after the administration of 1.5 Voegtlin units, whereas normal animals remained uninfluenced by this dose. The authors believe that this hypersensitivity explains the failure of thyroxine in the treatment of those pregnancy toxicoses in which the increase in blood pressure predominates. The efficacy of the thyroxine in the other cases is explained by the diuretic action of thyroxine and concerns chiefly those cases of eclampsia in which the nephropathy predominates. The increased resistance to thyroxine that exists during pregnancy has not been fully explained as yet.

## Münchener medizinische Wochenschrift, Munich

83: 957-996 (June 12) 1936. Partial Index

Treatment of Circulation with Organ Extracts. M. Hochrein.—p. 961.
Early Treatment of Congenital Luxation of Hip Joint. G. Haberler.—p. 967.
Psychotherapy of Morphine Addicts. F. M. Meyer.—p. 968.
Treatment of Surgically Exposed Rectal Carcinomas with Short Distance Roentgen Irradiation. H. Chaoul.—p. 972.
*New Type of Protective Plastics for Cornea: Shell Membrane of Bird's Egg as Protective Bandage for Eye. I. Brecher.—p. 976.

**Protective Plastic for Cornea.**—Brecher shows that in a group of disorders of the cornea, such as keratitis from lagophthalmos, dysesthesias of the cornea, the nasociliary syndrome of Charlin and neurotrophic ulcerations, it often becomes necessary for the practitioner to provide a protection for the injured corneal epithelium. In cases in which the simple occlusive bandage is inadequate, blepharorrhaphy or a conjunctival flap covering is generally resorted to. However, these surgical interventions are somewhat difficult, particularly for the practitioner. The author found that the shell membrane of the bird's egg constitutes an ideal material for a protective membrane for the corneal tissue. Owing to its animal origin and its other characteristics, it combines in itself all the osmotic and mitosis-promoting effects of the conjunctival flap covering and thus represents an entirely satisfactory substitute for it. The technic is bloodless and simple. A properly shaped piece of the shell membrane is placed for fifteen minutes in a disinfectant solution (chloramine) and is then placed on the slightly anesthetized cornea and fastened. The membrane remains in place for six or eight days or longer and after that can be easily removed.

## Wiener klinische Wochenschrift, Vienna

**49:** 801-832 (June 26) 1936. Partial Index

Human Heredity and Anthropology. J. Weninger.—p. 801.
*What Can Be Learned from Mode of Life of Nonagenarians? E. Freund.—p. 809.
Variability of Intestinal Bacteria and Its Etilogic Significance for Enteral Disturbances in Nurslings and Children. A. Reuss and K. Hassmann.—p. 811.
Development and Treatment of Pruritus. H. Königstein.—p. 815.
Oral Camphor Poisoning: Case. Grete Lorenz.—p. 816.
Treatment of Syphilis and Gonorrhea with Artificially Produced Fever. W. M. Simpson.—p. 817.

**Mode of Life of Nonagenarians.**—Freund states that for a number of years he made inquiries regarding the mode of life between 75 and 100. He obtained detailed information from about 100 such persons from all walks of life. A regularity in factors, often regarded as important for longevity, is missing in this material. For instance, only two persons report that they belong to a long-lived family, whereas a large number report that they lost their parents early. The assumption of an especially healthy constitution likewise is not proved by these data, for many of the persons report serious disorders during their earlier life (tuberculosis, articular disorders and so on); others report occasional attacks of biliary disorders, rheumatism, influenza, dysentery and even serious surgical interventions and pneumonia. A care-free life cannot be considered the cause of the longevity, for many reported great physical and mental exertion and times and conditions of great stress. All adhered to a mixed diet. Strict vegetarianism as well as the consumption of large amounts of meat was reported by none of these long-lived persons. Preference for a fat diet was rare, and those few who did take such a diet also ate generous amounts of green vegetables and fresh fruits. Many ate meat only two or three times each week. Foods prepared with milk were favored evening meals. Apples, oranges, tea and milk were for some a part of the daily diet. Many stress careful chewing of the foods. Rest or exercise after meals is evaluated variously. An important factor seems to be the temperament, and particularly the manner in which these persons react to unpleasant happenings. Only one of all the long-lived persons admitted a certain irritability, but even this person says that the psychic equilibrium is always quickly reestablished.

**49:** 833-864 (July 3) 1936. Partial Index

Fires, Explosions and Corrosions That Have Been Caused by Electricity: Their Prevention and Treatment. S. Jellinek.—p. 837.
Is Thrombo-Embolism Increasing? A. E. Sitsen.—p. 838.
*Roentgen Irradiation of Eyes Blind from Absolute Glaucoma. W. Kreibig.—p. 843.
*Pylorospasm During Childhood. K. Eberle.—p. 845.
Further Experiences with Large Doses of Atropine in Treatment of Parkinsonism. S. Muntner.—p. 850.
Treatment of Intestinal Helminthiasis During Childhood. O. Chiari.—p. 852.

**Roentgen Irradiation in Absolute Glaucoma.**—Following a review of the literature on the use of roentgen rays in glaucoma, Kreibig says that at the roentgen institute of the Vienna general hospital roentgen treatment is given with repeated small doses. At intervals of two or three days, 50 roentgens is administered until a total of 150 roentgens has been reached. After that the treatment is interrupted for one or two weeks and then further series are administered according to need. This method of treatment never caused injurious results. In a considerable number of cases the roentgen therapy proved beneficial in that it reduced the pain. However, there was no essential reduction in the intra-ocular pressure, although other investigators have observed a reduction after roentgen treatment. To be sure, occasionally the author found slight reductions in pressure, but they were not sufficient to explain the efficacy of the roentgen rays. He therefore is inclined to agree with Hensen and Schäfer, who ascribe the efficacy of the roentgen therapy to the fact that the rays render the eye insensible. After giving short histories of a number of glaucoma cases in which roentgen treatment was employed, the author concludes that a trial with roentgen therapy is justified in all painful cases of absolute glaucoma. He admits that the treatment fails in some cases but also emphasizes that patience is necessary, for frequently the improvement does not become noticeable until six or more irradiations have been applied.

**Pylorospasm During Childhood.**—Eberle mentions the theories advanced regarding the etiology of pylorospasm and points out that it is not fully explained as yet. After describing the symptomatology, he shows that the prolonged vomiting produces, in addition to other disturbances, also a severe metabolic disorder. There is exsiccosis with inspissation of the blood and albuminuria, also chloropenia with achloruria and hypochloremia. In discussing the therapy of pylorospasm, the author says that roentgen treatment has been abandoned. Then he mentions the various medicaments that have been tried, such as papaverine and atropine. The favorable reports of other clinics induced his clinic to try a scopolamine preparation. After overcoming the comatose condition by careful treatment with sodium chloride, the treatment was continued with sodium chloride and the scopolamine preparation. Under the influence of this treatment the vomiting ceased rapidly. The author says that the new internal treatment of pylorospasm stresses the following point: Pylorospasm should be treated in a hospital. The food intake should be under strict control. There should be frequent feedings with small, concentrated portions. The child should be under the care of a conscientious nurse. The formerly employed gastric irrigations are inadvisable, because they lead to further depletion of the chloride reserves. The loss of chlorides and water is compensated by the frequent small feedings. In giving his attention to the surgical treatment of pylorospasm, the author says that the new Weber-Ramstedt method is the best. He considers surgery indicated when careful internal treatment fails. Following the operation, feeding must again be carefully supervised, for if this is not done alimentary intoxication may result.

## Wiener medizinische Wochenschrift, Vienna

**86:** 649-676 (June 13) 1936. Partial Index

Fibroma Pendulum. R. Bezecny.—p. 650.
*Favorable Influence of Severe Arsphenamine Exanthems on Course of Syphilis. A. Buschke, A. Joseph and W. Konheim.—p. 651.
*Indications for Borderline Ray Therapy in Dermatology. H. Fuhs.—p. 656.
Curative Phases in Pressure Therapy of Varicose Ulcers. R. Goldman. p. 660.
Experiences with Alopecia Areata. A. Jordan.—p. 662.

**Influence of Arsphenamine Exanthems on Syphilis.**—Buschke and his associates point out that, if syphilis is accompanied by severe involvement of the skin, the late processes (on internal organs and nervous system) are much milder than in patients in whom the skin is only slightly involved. A strong reactivity of the skin suggests a vigorous formation of antibodies, for it is known that the majority of infectious diseases which are characterized by severe involvement of the skin (dermotrophy), such as scarlet fever, measles, rubella, smallpox and chickenpox, produce the longest lasting immunity. The involvement of the skin in the defense mechanism against syphilis engaged the attention of physicians as far back as the fifteenth century. Then it was believed that syphilis should not be treated too early, so as not to drive it into the body. The leading syphilologists of the mercury era likewise advised the postponement of treatment until the exanthem had completely developed, but, since the introduction of arsphenamine, early treatment has been recommended. Recently, however, the one-sided chemotherapeutic treatment has again been criticized as resulting in the weakening of the defense powers of the organism and it has been suggested that the biologic therapeutic methods be employed at least as auxiliary measures. That intense and prolonged cutaneous irritation increases the curative action of specific remedies is indicated by observations on treatment by inunction, for mercury inunctions were especially effective when they caused irritation of the skin. Further, the authors mention Buschke and Freymann's observations on ten patients with arsphenamine dermatitis, all except one of whom had a negative Wassermann reaction in spite of inadequate treatment. These effects of arsphenamine dermatitis were subsequently corroborated by others, but there were also some who made contradictory observations; namely, that severe arsphenamine exanthems reduced rather than increased the defense powers of the organism. However, the latter observations are by far in the minority. In discussing the mode of action of the arsphenamine exanthem on the course of syphilis, the authors suggest that allergic conditions, on the basis of a previous sensitization,

play an important part, for it is known that allergic conditions may result in immunity. They mention analogous observations, such as the cure of a case of migraine after a phenobarbital exanthem, of pemphigus after an arsphenamine exanthem, of lupus or of psoriasis after gold erythrodermia, or of lupus after bismuth dermatitis. These examples prove also that the medicaments which elicit the dermatitis are not important. The severity of the exanthem and its duration, however, seem to be essential, for, whereas in the superficial skin changes (erythemas) there is usually no effect, the cutaneous disorders which involve the "skin parenchyma," that is, the papillary body, including the epithelium and the connective tissue, usually exert an influence. The authors point out that the favorable effect exerted by arsphenamine dermatitis on the course of syphilis corroborates the opinion that ascribes to the skin an important function in the defense of the organism against chronic infection. They state that measures which promote the cutaneous reactivity are a valuable aid in the treatment of syphilis and consider it unfortunate that, for instance, mercury inunctions have been neglected since the introduction of the injection therapy. They recommend that mercury inunctions be combined with the arsphenamine therapy and that they be used instead of the mercury and bismuth injections.

**Borderline Ray Therapy in Dermatology.**—Fuhs says that, within the range of the doses of rays which have been found adequate for the majority of dermatoses, the therapeutic use of Bucky's soft rays, the so-called borderline rays, no longer needs to be feared. In order to avoid cosmetic impairments (telangiectasias, atrophies and pigmentation disturbances) a certain maximal dose per field should not be exceeded. Moreover, the intervals between treatments and the number of exposures should likewise be carefully watched. The author generally used the same technic as to half-layer value, voltage, number of milliamperes and focus-skin distance and varied only the quantity of rays (dose). His experiences with the general application of borderline rays were practically negative in that he observed not a single convincing result. However, with the focal or local application of these rays he obtained favorable results in many dermatologic disorders. In acne varioliformis, particularly in refractory and relapsing form, a few applications of borderline rays (250 roentgens per field) are frequently successful. In angioma cavernosum, particularly in the nonulcerated, cutaneous tumors, borderline rays in doses of from 1,000 to 1,200 roentgens are often effective. The author discusses the value of borderline rays in angulus infectiosus, in multiple carcinoids of the skin and in clavus plantaris. Then he takes up dermatitis and eczema, showing that the borderline rays can be used as an auxiliary treatment in some of the subacute and chronic forms of these dermatoses. Since the borderline rays have no epilatory effect, they are especially valuable in case of eczema of the hair-covered part of the head. The author discusses the use of borderline rays in furunculosis, hidrosadenitis axillaris and Darier's disease. About nevus flammeus he says that those nevi which disappear partly or completely in response to glass pressure often yield to treatment with borderline rays (from 900 to 1,200 roentgens at intervals of from five to six weeks). The cosmetic results of the treatment with borderline rays are more favorable than those of any other treatment of nevus flammeus. Other skin disorders in which the author resorted to treatment with borderline rays are pityriasis lichenoides chronica, pruritus of the anus and of the vulva, psoriasis vulgaris, verrucae planae juveniles and finally the various forms of tuberculosis of the skin.

## Polska Gazeta Lekarska, Lwów

**15:** 597-612 (July 26) 1936

*Rôle of Pituitary Body in Amylaceous Metabolism: Case of Acromegaly Observed at Clinic. E. Salitówna.—p. 597.
Clinical Treatment of Gonorrheal Arthritis. F. Siedlecki.—p. 601.
Remarks on Article of Dr. E. Birzowski: New Methods in Therapy and Their Relation to Social Insurance. E. Piotrowski.—p. 606.
Blood of Persons Suffering from Hypertension, as Material for Transfusion of Blood. B. Popielski.—p. 606.
Contents of Hormone of Yellow Bodies in Extracts of Human Placenta. H. Stein.—p. 607.

**Rôle of Pituitary in Carbohydrate Metabolism.**—Salitówna describes the case of a woman, aged 42, who suffered from diabetes and symptoms of acromegaly. She did not complain of headache or eye trouble. For two and a half years she came to the clinic often for periods of from three to six weeks for observation for diabetes. Instability, changes in vision and resistance to insulin were observed each time. She was treated with roentgen rays, and some general improvement was noted in that the acromegalic symptoms were reduced, the range of vision became stabilized and her resistance to insulin was decreased. The hyperglycemia was 0.38 per cent, glycosuria was up to 250 Gm., and there were acetone bodies in the twenty-four hour urine. Inquiry determined that the diabetes had developed several years after the acromegalic symptoms appeared. Even though from 30 to 60 units of insulin was administered, the quantity of sugar stayed at the level of from 0.23 to 0.25 per cent; and even with the diet of 200 Gm. of carbohydrates, the glycosuria was not less than 150 Gm. A second characteristic to be noted was a tendency to acidosis which did not allow a decrease in the quantity of carbohydrates in the diet below 200 Gm. The same applied to insulin, which could not be reduced to less than 60 units during the twenty-four hours. Simultaneously there was a tendency to retain water under the influence of the insulin dosage, so that the body weight increased from 1 to 1.5 Kg. a day. It was noted that, under the influence of roentgen rays, resistance to insulin was reduced so that from 60 to 80 units was tolerated with 50 Gm. of carbohydrates in a diet of 130 Gm. of carbohydrates, and after four series of roentgen rays of 4,000 roentgens each there was tolerance of from 160 to 200 Gm. of carbohydrates in diet containing 305 Gm. of carbohydrate; that is, the insulin indicator reached from 0.9-1.5 to 2-2.5. The patient's general condition rapidly improved. She gained 12 Kg.; the signs of acromegaly diminished and her general appearance and range of vision after the second series of roentgen rays were better.

## Acta Pædiatrica, Stockholm

**18:** 377-511 (June 30) 1936. Partial Index

Quantitative Investigations of Resorption of Vitamin A in Case of Celiac Disease. C. Friderichsen.—p. 377.
*Experimental Researches into the Influence of Freezing on the Vitamin C Content of Orange Juice and Milk. Kaare Lilleengen.—p. 392.
Electrocardiogram of Premature Births. C.-E. Räihä.—p. 440.
*Etiology of Pylorospasm (Hypertrophic Pyloric Stenosis of Type Hirschsprung). T. Halbertsma.—p. 463.
Decrease in Tuberculous Meningitis. A. Wallgren.—p. 474.
Acute Atrophy of Liver and Catarrhal Icterus in Siblings. C. Hirschberger.—p. 482.

**Influence of Freezing on Vitamin C content of Orange Juice and Milk.**—In studies on the biologic effects of vitamin C on the teeth and jaw-bones of guinea-pigs, Lilleengen ascertained the effect of freezing on the vitamin C of orange juice and cow's milk. It was found that by freezing and storing fresh orange juice and fresh winter milk at minus 30 C. for about four weeks, the biologic vitamin C effect of the orange juice decreased by slightly less than one third and that of milk by about one third.

**Etiology of Pylorospasm.**—Halbertsma regards pylorospasm as a syndrome of spasm, tumor formation and vomiting, which is a sequel of a congenital deformity. The mucous membrane canal is from the beginning too long and narrow. During the first three weeks of life the lumen is still wide enough for the passage of the relatively small quantities of food, but when larger quantities are needed the passage becomes impaired. As a reaction to this disordered passage, a muscular tumor may develop within a few weeks. The author points out that this theory of the genesis of pylorospasm is supported by the roentgenologic and clinical observations of various authors and by a number of his own observations. In a relapse operation he observed that the pyloric tumor had become greatly enlarged in the course of five weeks. Among the thirty-two cases of pylorospasm that were observed by him he noted that in three families the disorder recurred several times (seven children in all). Two of these families are of especial interest, because they are related. The author shows a diagram of their genealogical tree and asserts that it is probable that the disorder had been present also in the preceding generation. In binovular twins, the disorder occurs with the same frequency as in other siblings; in uniovular twins, pylorospasm is present in both. The author concludes that pylorospasm is probably a congenital, hereditary deformity.